25.   In reviewing the number of splits, the Court is mindful that is not simply a numbers game and that a boundary divide, first and foremost, must be done to guarantee equality in population, second (and most relatedly), should preserve the commonality of the interests of the communities and, third, should not be done to achieve an ulterior motive, such as racial discrimination or unlawful partisan gerrymandering.

26.   That said, the following plans propose to split the City of Pittsburgh into two districts, apparently for the first time in history of the Commonwealth:   the Governor's Plan, the Senate Democratic Caucus Plan 1 and Plan 2, the Draw the Lines PA Plan, and the plan submitted by Khalif Ali.

27.    However, upon review of the record, the Court determines that these parties have failed to present any credible evidence as to why it was "necessary" to split the second largest city in Pennsylvania in order to achieve equal population, especially considering that such an approach is seemingly a novel proposition, and experts credibly testified that there was no legitimate rationale or reason to apportion the city into two separate segments.

28.   Given the weight it has afforded the evidence, the Court expresses grave concerns that the maps dividing the City of Pittsburgh do so with the objective of obtaining an impermissible partisan advantage, by effectively attempting to create *two* Democratic districts out of *one* traditionally and historically Democratic district.

29.   The Court further finds, based on the credible evidence of record that, by dividing the City of Pittsburgh into two districts, the above-mentioned maps have failed preserve the shared interest of the communities in the Pittsburgh area and the distinctive cultural fabric that has been shaped and formed within the city's limits.

30.     Therefore, the Court respectfully recommends that the above-mentioned maps are not, as a matter of comparative evidentiary weight, an appropriate choice to represent Pennsylvania's congressional districts in upcoming elections because they divide the City of Pittsburgh.

31.     The Court further respectfully recommends that any map that divides Bucks County for the first time since the 1860s, including Governor Wolf's map, is not an appropriate choice to represent Pennsylvania's congressional districts in upcoming elections.  In so determining, the Court credits and provides great weight to the unrefuted testimony of Dr. Naughton who, as explained more fully below, opined that Bucks County should not be split into two congressional districts.

32.     Regarding the issue of incumbent pairings, the Court finds and places persuasive weight on the fact that, contrary to every other map submitted, the Senate Democratic Caucus 1 Plan and the Carter Plan include two Republican incumbents in one congressional district, which effectively eliminates a Republican from continued representation in the United States House of Representatives.

33.     As such, although Pennsylvania has already lost one congressional seat as a result of decreased population, the Senate Democratic Caucus 1 Plan and the Carter Plan, in effect, seek to preemptively purge a Republican Congressman from the 17 seats that are remain available for office.

34.     Viewing the record as a whole, the Court finds that the plan submitted by the Carter Petitioners is given less weight in that it utilizes the "least change" analysis, and the underlying methodology and methods employed by Dr. Rodden to construct the proposed maps based on the 2018 map which was based on an entirely different census population and 18 versus 17 districts, and contrary to Pennsylvania and United States Supreme Court precedent.

195

35.     Consequently, any figures, features, or characteristics in the Carter Petitioners' plan and map that could possibly be deemed to support the validity of that plan and map have been developed in contravention of controlling precedent.

36.     Based on the current record, and caselaw and when considered alongside and constructively with the other maps, the Court simply cannot conclude that the Carter Petitioners' map is otherwise entitled to a degree of evidentiary weight such that it outweighs, by a preponderance, the evidentiary value of the other, proposed maps. As such, for this reason and those stated within, the Court must recommend that the Carter Petitioners' map be given less evidentiary weight in its global assessment of all the plans and proposals.

37.     Upon review, the Court finds credible and extremely persuasive the various experts' testimonies and reports explaining that there is a strong relationship between the geographic concentration of Democratic voters and electoral bias in favor of Republicans.

38.     Particularly, Dr. Duchin, Governor Wolf's expert, confirmed that the political geography of Pennsylvania is partisan by its very nature.  Dr. Duchin testified, credibly, that in generating 100,000 random plans with a computer programmed that was designed only to honor Pennsylvania's minimum constitutional requirements, the random plans tended to exhibit a pronounced advantage to Republicans across the full suite of elections, throughout the Commonwealth as a whole, and that random plans must naturally and necessarily favor Republicans.

39.     Indeed, in terms of the metrics used to gauge partisan fairness, the mean-median scores provided by each and every expert with respect to each and every single district of the various maps confirms that an overwhelming supermajority of the maps possess a notable difference that favor Republicans and, thus, confirms the

196

natural state of political voting behavior and tendencies in the entirety of the Commonwealth with respect to congressional districting.

40.      On record as presented, the Court finds that when lines are purposely drawn to negate a natural and undisputed Republican tilt that results from the objective, traditional, and historical practice whereby Democratic voters are clustered in dense and urban areas, such activity is tantamount to intentionally configuring lines to benefit one political party over another.  The Court considers this to be a subspecies of unfair partisan gerrymandering and is legally obligated, pursuant to *LWV II*, to look up such a practice with suspicious eyes.

41.    That said, on a comparative scale, the Court gives less weight to the maps that, due to their credited mean-median scores, yield a partisan advantage to the Democratic Party, namely the Gressman Plan and the House Democratic Caucus Plan.

42.    Similarly, on a comparative scale, the Court provides less weight to the maps that, due to their credited efficiency gap scores, yield a partisan advantage to the Democratic Party, namely the Carter Plan, the Gressman Plan, the Governor's Plan, the Senate Democratic Caucus 2 Plan, the House Democratic Caucus Plan, and the Draw the Lines Plan.

43.    Regardless of whether there was sufficient, credible evidence to establish that any of the other proffered plans violate the Free and Equal Elections clause because they subordinate the neutral factors pronounced in *LWV II* and place unlawful, paramount emphasis on gerrymandering for unfair partisan political advantage, the Court considers the degree of partisan fairness reflected within the maps as a substantial factor that is entitled to appreciable weight in the final calculus.

197

44.    In so doing, the Court notes, as previously explained, one of the overriding constitutional precepts applied in redistricting cases is that any map that prioritizes proportional election outcomes, for example, by negating the natural geographic disadvantage to achieve proportionality at the expense of traditional redistricting criteria, violates the Pennsylvania Constitution's Free and Equal Elections Clause. As the United States Supreme Court stated in *Vieth v. Jubelirer*, concerning a Pennsylvania redistricting plan, "[t]he Constitution provides no right to proportional representation."   541 U.S. at 268.   Instead, the Constitution "guarantees equal protection of the law to persons, not equal representation . . . to equivalently sized groups.  It nowhere says that farmer or urban dwellers, Christian fundamentalists or Jews, Republicans or Democrats, must be accorded political strength proportionate to their numbers." *Id.* at 288

45.    There was insufficient evidence of record to establish that any of the proposed maps violated the Voting Rights Amendment or the "one person, one vote" principle in the Equal Protection clause of the United States Constitution.  While voicing no opinion as to the future prospect of such claims, the Court notes that they were not sufficiently developed or argued during the proceedings below.

46.    Having received and considered the evidence in the manner of a trial court, the Court has fully vetted the plans and maps to assess their compliance with the neutral criteria of the Free and Equal Elections Clause of the Pennsylvania Constitution, as interpreted and applied in *LWV II*.

47.    From this perspective, the Court discounts the plans that it already determined failed to adequately satisfy those criteria, otherwise jeopardized the purposes and goals inherent in the "floor" standard adopted by our Supreme Court, and/or contain

198

characteristics that render them patently not credible or comparatively deserving of lesser weight.

48. Particularly, the Court submits the following recommendations as to which plans should not be adopted by the Supreme Court and, for support, supplies the accompanying reasons for its specific recommendations:

Ali Plan

Based on all of the foregoing, the Court does not recommend adopting the Ali Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1) it relied on the LRC's Data Set #2, which contains population adjustments to account for the reallocation of most prisoners to their last known addresses prior to incarceration, is not based on the figures in Data set #1, and is not in accord with Pa. House Res. 165;

2) the Court finds that Data Set #2 should not be used at this time for congressional districting;

3) the Plan's adjustments in population, relocating prisoners to their residential addresses, would result in a population deviation of 8,676 people;

4) it splits the City of Pittsburgh into two congressional districts for the first time without any convincing or credible expert explanation as to why this was absolutely necessary to achieve population equality or to refute other expert opinions that the City of Pittsburgh does not need to be split in order to achieve population equality between districts;

199

A1625

5) the City of Pittsburgh in many ways constitutes a community of interest, such that its division would not be in the best interest of its residents.

Governor Wolf's Plan

Based on all of the foregoing, the Court does not recommend adopting the Governor's map for the congressional districts in the Commonwealth of Pennsylvania because:

1) it splits the City of Pittsburgh into two congressional districts for the first time without any convincing or credible expert explanation as to why this was absolutely necessary to achieve population equality or to refute other expert opinions that the City of Pittsburgh does not need to be split in order to achieve population equality between districts;

2) the Governor's map also for the first time in 150 years, splits Bucks County, and joins Philadelphia's surplus population with Bucks County.  Again, the Governor has not provided any convincing or credible expert explanation as to why this is absolutely necessary to achieve population equality between districts;

3) the Governor's Plan splits the City of Pittsburgh in order to create another Democratic congressional district solely for partisan gain by creating another Democratic district;

4)  the City of Pittsburgh in many ways constitutes a community of interest, such that its division would not be in the best interest of its residents and has never before been split;

200

A1626

5) based on its credited efficiency gap score, it provides a partisan advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania.

### The Draw the Lines Plan

Based on all of the foregoing, the Court does not recommend adopting the Draw the Lines Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1) like the Governor's Plan, it splits the City of Pittsburgh across two congressional districts for the first time without any convincing or credible expert explanation as to why this was absolutely necessary to achieve population equality or to refute other expert opinions that the City of Pittsburgh  does not need to be split in order to achieve population equality between districts;

2)  the City of Pittsburgh in many ways constitutes a community of interest, such that its division would not be in the best interest of its residents;

3) Draw the Lines admittedly split Pittsburgh into two to maximize political competitiveness.  *See* Villere Report at 4;

4) based on its credited efficiency gap score, it provides a partisan advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania.

### Senate Democratic Caucus Plans 1 or 2

201

A1627

Based on all of the foregoing, the Court does not recommend adopting either Senate Democratic Caucus Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1) both Plans split the City of Pittsburgh across two congressional districts for the first time without any convincing or credible expert explanation as to why this was absolutely necessary to achieve population equality or to refute other expert opinions that the City of Pittsburgh does not need to be split in order to achieve population equality between districts;

2) the City of Pittsburgh in many ways constitutes a community of interest, such that its division would not be in the best interest of its residents;

3) the Senate Democratic Caucus' Plans split Pittsburgh in order to create another Democratic congressional district which appears to be solely for partisan gain by creating another Democratic district;

4) without any explicit or apparent justification, it pairs two Republican incumbents in one congressional district and effectively eliminates a Republican from continued representation in the United States House of Representatives;

5) based on its credited efficiency gap score, it provides a partisan advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania

House Democratic Caucus Plan

202

A1628

Based on all of the foregoing, the Court does not recommend adopting the House Democratic Caucus' Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1) it was not accompanied by an expert report or testimony consequently, the Court received no testimonial or written explanation concerning why the map drew the lines in the particular manner that it did and to demonstrate why the divides in the maps were absolutely necessary to achieve population equality as opposed to some other secondary or impermissible goal;

2) while keeping Pittsburgh whole, as asserted by one of the parties, it draws an oddly shaped "Freddy-Krueger like claw" district in Allegheny County to "grab" Pittsburgh to combine it with Republican areas leaning to the North without any explanation of the reasons for doing so;

3) it has a two-person difference in population from the largest to their smallest districts, while the majority of other plans were able to achieve a one person deviation;

4) based on both its credited efficiency gap score and credited mean-median score, it provides a partisan advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania.

The Citizen Voters Plan

203

A1629

Based on all of the foregoing, the Court does not recommend adopting the Citizen Voters' Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1)  it was not accompanied by an expert report or testimony consequently, the Court received no testimonial or written explanation concerning why the map drew the lines in the particular manner that it did and to demonstrate why the divides in the maps were absolutely necessary to achieve population equality as opposed to some other secondary or impermissible goal;

2)  it has a two-person difference in population from the largest to their smallest districts, while the majority of other plans were able to achieve a one person deviation.

The Carter Plan

Based on all of the foregoing, this Court does not recommend adopting the Carter Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1)  it has a two-person difference in population from the largest to their smallest districts, while the majority of other plans were able to achieve a one person deviation;

2)  it utilized the "least-change" approach, and lacked any analysis of the percentage differences as discussed more fully herein;

3)  without any explicit or apparent justification, it pairs two Republican incumbents in one congressional district and effectively eliminates a

204

Republican from continued representation in the United States House of Representatives;

4) based on its credited efficiency gap score, it provides a partisan advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania.

The Gressman Plan

Based on all of the foregoing, this Court does not recommend adopting the Gressman Plan for the congressional districts in the Commonwealth of Pennsylvania because:

1) the algorithm used to prepare the Gressman Plan was specifically looking to optimize on partisan fairness, which as explained above, is not one of the traditional neutral criteria of redistricting and because the constitutional reapportionment scheme does not impose a requirement of balancing the representation of the political parties;

2) the Gressman Petitioners did not adequately establish that they considered community interests when deciding to erect boundary lines across the Commonwealth;

3) based on both its credited efficiency gap score and credited mean-median score, it provides a partisan advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania.

205

A1631

49.     Although the Court could conceivably find that quite a few, if not all, of the remaining maps, are entirely consistent with the Free and Equal Elections Clause, it faces the task of having to choose and recommend only one map to our Supreme Court and effectively usurp the role and function of the law-making bodies of this Commonwealth.

50.     In navigating this "rough terrain" and undertaking this "unwelcomed obligation," which is "a notoriously political endeavor," *Carter v. Chapman* (Pa., No. 7 MM 2022, order filed Feb. 2, 2022), __ A.3d ___, at __ (Dougherty, J., concurring statement at 3-5) (internal citations omitted), the Court specifically credits the evidence of Governor Wolf's expert, Dr. Duchin, in part, and in the following regards.

51.     The Court accepts as credible Dr. Duchin's opinion to the extent she concluded that, among other submissions, the map of the Voters of PA *Amici* and Reschenthaler 1 both evince a "first tier" standard of excellence and easily satisfy the baseline "floor" standard or neutral criteria under *LWV II*.

52.     The Court accepts as credible Dr. Duchin's opinion insofar as she opined that Reschenthaler 2 falls within a "second tier" standard of excellence and also satisfies the baseline "floor" standard or neutral criteria under *LWV II*.

53.     The Court further accepts as credible Dr. Duchin's testimony and statements in her report that HB 2146 is population balanced and contiguous, shows strong respect for political boundaries, is reasonably compact, and has better "splits" than Governor Wolf's plan.

54.     Regarding Reschenthaler 1 and Reschenthaler 2, the Court accepts as credible Dr. Duchin's admissions and concessions that the Reschenthaler maps had the

206

lowest "county pieces" (29) and municipal splits (16), and were tied for the lowest with respect to "municipal pieces" (33).

55.     Additionally, the Court credits Dr. Rodden's testimony explaining that his analysis of the partisan nature of the proposed maps showed that the estimated seats for Democrats and Republicans between the Carter Map, on one hand, and the Reschenthaler 1 and 2 maps, on the other hand, differed by just one seat out of 17.

56.     Concerning the map submitted by the Voters of PA *Amici*, the Court credits the evidence demonstrating that it had the best Popper-Polsby score of 0.3951 and, in this particular respect, is superior in terms of the metrics used to evaluate compactness.

57.     As a result of its credibility and weight determinations, the Court finds that the map submitted by the Voters of PA *Amici*, the Congressional Intervenors' maps (especially Reschenthaler 1), and the map of the Republican Legislative Intervenors (known as HB 2146) are consistent with the Free and Equal Elections Clause of the Pennsylvania Constitution, and, also, the aspirations and ideals expressed by that constitutional provision as pronounced by the Court in *LWV II* due to their compactness, degree of partisan fairness, and specific development of congressional districts.

58.     For further support of this recommendation, the Court finds that the proposed congressional districts within the map proposed by Voters of PA *Amici*, Reschenthaler 1, and HB 2146 credibly and persuasively comply with the various experts' universal recognition that the surface areas comprising the districts should be in accord with the natural, political, and structural geography of those areas.

59.     The Court also finds that the proposed congressional districts within the map proposed by Voters of PA *Amici*, Reschenthaler 1, and HB 2146 credibly and

persuasively create a sufficient number of competitive, "toss up" congressional districts which could go either way, depending upon the particular election and/or office at issue and the qualifications and political platforms of the individual candidates.

60.     On a vis-à-vis comparison, the Court finds that Reschenthaler 1 would slightly exceed the map of Voters of PA *Amici* in that it provided a more extensive report on the preservation of communities of interest, a precept recognized by the courts as a heavy, if not mandatory, factor in this type of assessment.

61.     Although the Republican Legislative Intervenors requested the Court to provide some degree of presumptive deference to HB 2146, because the enactment had gone through the proper legislative process and was passed by the General Assembly, the Court declined to do so summarily and instead assessed HB 2146 evenly and through the same rigorous scrutiny, against all the traditional constitutional criteria and measures and on the same plane and footing as the other parties and *amici* and their respective maps.

62.     The Court finds it is the General Assembly's prerogative, rather its constitutional mandate, to redraw the state's congressional districts under Article 1, section 4 of the United States Constitution and its related provisions in the Pennsylvania Constitution and state statutes.

63.     Following this duty, HB 2146 was passed by the General Assembly, both the House of Representatives and Senate and, as such, constitutes a valid bill that cleared through and was enacted by Pennsylvania's bicameral, legislative branch of government.

64.     The Court finds that HB 2146 originated as a plan proposed and drawn by a well-known nonpartisan citizen, Amanda Holt, and, after being made available for

208

A1634

public comment, underwent the scrutiny and consideration necessary to reflect policy choices that are bestowed to the General Assembly as the legislative branch of government.

65.     Having conducted a separate and independent review of HB 2146, in and of itself and alongside the other plans and maps, the Court credits all the evidence of record demonstrating the statistical soundness, partisan impartiality, and overall strengths of the figures and methods supporting HB 2146, including the manner and mode through which it was devised, contemplated, and passed by the legislative bodies and branch of the Commonwealth of Pennsylvania.

66.     More specifically, the Court finds the methodology and reasoning employed by Dr. Barber to be credible and persuasive.  Dr. Barber, who received his Ph.D. in political science from Princeton University in 2014 with emphases in American politics and quantitative methods/statistical analyses, was one of two experts who conducted a simulation analysis that compared proposed maps with a set of 50,000 simulated maps; he sufficiently articulated and identified the variables for the algorithmic creation of simulated maps; the parameters of his simulation analysis included only the traditional redistricting criteria, and not partisan data; and, in separately considering the partisan lean of districts, Dr. Barber analyzed a set of all statewide elections from 2012 to 2020, thereby accounting for a relatively greater amount of elections during a longer timeframe than the other experts.

67.     Based on the credible evidence of record, the Court finds that, in dividing 15 counties, 16 municipalities and 9 precincts, HB 2146 performs very well regarding political subdivision splits.   The Court especially notes that, while the range of precinct splits in the other submitted plans varies from 9 to 38, HB 2146 splits only

209

A1635

9 precincts, which is the lowest of any plan by a total of 7 precincts. Further, these splits are consistent and on par with the 2018 Remedial Plan.

68. The Court notes and provides evidentiary weight to the fact that HB 2146 places only two incumbents, a Democrat and a Republican, in one district and, when considered with the other competitive proposals, does not relatively seek to obtain an unfair partisan advantage through incumbent pairings.

69. The Court notes and provides great evidentiary weight to the fact that the district compositions of HB 4126 are consistent with Dr. Naughton's credited and unrefuted testimony, in the regards that follow.

70. Dr. Naughton credibly and undisputedly testified that the residents of Bucks County share the same community interests; Bucks County has been wholly contained within a single district for decades; and, therefore, Bucks County should be located entirely within one district.

71. Consistent with Dr. Naughton's recommendation, HB2146, unlike the map proposed by Governor Wolf, does not split Bucks County.

72. Dr. Naughton credibly and undisputedly testified that, regarding whether to combine Philadelphia's surplus population with Bucks County, the communities in Bucks County are more similar to those in Montgomery County and, thus, Bucks County should add population to its district by extending the district line into Montgomery County, rather than Philadelphia County.

73. Dr. Naughton credibly and undisputedly testified and opined that Philadelphia's surplus population would be best combined with a district with maximum commonality; on comparison, Delaware County and Philadelphia County share similar communities of interest; the most sensible plan in this respect would

attach surplus Philadelphia residences to Delaware County; and, hence, Philadelphia County should extend into Delaware County to obtain additional population.

74.    Consistent with Dr. Naughton's' recommendation, HB 2146 does not connect Philadelphia's surplus population to Bucks County.

75.    Consistent with Dr. Naughton's' recommendation, HB 2146 connects Philadelphia's surplus population to Delaware County.

76.    Furthermore, according to credible evidence of record, although Dr. Barber did not explicitly consider race in his analysis, he determined, as confirmed by other experts in this case, that HB 2146 maintains two minority-majority congressional districts, including 1 district where a majority of the population was comprised of African-Americans, as did the 2018 Remedial Map.

77.    Having reviewed the experts' various testimonies and reports, the Court accepts and credits a 0.324 Polsby-Popper score, which is remarkably similar to the 2018 Remedial Plan's Polsby-Popper score of 0.327, to accurately reflect and indicate the compactness measure for HB 2146.

78.    Given the credible evidence of record, HB 2146 is predicted to result in 9 Democratic-leaning seats and 8 Republican-leaning seats and, consequently, is more favorable to Democrats than the most likely outcome of 50,000 computer drawn simulated maps that used no partisan data, which resulted in 8 Democratic-leaning seats and 9 Republican-leaning seats.

79.    Unlike other maps that leaned Democrat, here, it is the Republican majority in the General Assembly that developed and proposed a plan, HB 2146, that favors Democrats, which ultimately underscores the partisan fairness of the plan.

80.    The Court finds, as a result of the credible experts' opinions, reports, and concessions made during cross-examinations, that HB 2146 falls well within the

acceptable constitutional ranges and indicia used to measure partisan fairness, in the following particulars.

81.      H.B. 2146, when analyzed with districts that have a Democratic vote share of .48 to .52, which is a common range for assessing competitive elections, creates 5 competitive seats, 4 of which lean Democratic, and, ultimately, has more competitive districts than any other plan.

82.      H.B. 2146 possesses a mean-median of -0.015, which is very close to zero and virtually unbiased, and demonstrates that HB 2146 is more favorable to Democrats than 85% of the simulation results.

83.      H.B. 2146 has an efficiency gap of -0.02, which, again, is very close to zero and virtually unbiased, and, furthermore, demonstrates that Democratic votes are not much more likely than Republican votes to be "wasted" across districts.

84.      As a matter of fact, HB 2146 maintains the City of Pittsburgh within one congressional district and, unlike the plans proposed the Governor, the Senate Democratic Caucus, the Draw the Lines *Amici*, and the Ali *Amici*, preserve the shared interests of the communities located within the City.

85.      Even without the testimony of Drs. Naughton and Barber, other experts agreed that HB 2146 satisfies the baseline floor for constitutionality under *LWV II*.

86.      Based on all of the above, the Court finds and recommends that HB 2146 meets all the neutral, traditional redistricting criteria, as announced in *LWV II*, noting that none of the parties have meaningfully contested or otherwise disputed this fact.

87.      Based on these features, facets, and characteristics detailed previously, the Court finds as fact and law that the "neutral criteria" in HB 2146 is paramount to any extraneous considerations.  More specifically, the Court finds that there is no

212

credible evidence of record to establish that the neutral criteria have been subordinated, in whole or in part, to another factor or other factors.

88.    As such, the Court concludes that HB 2146 passes constitutional muster under the Free and Equal Elections Clause. *See LWV II*, 178 A.3d at 816 ("[W]e find these neutral benchmarks to be particularly suitable as a measure in assessing whether a congressional districting plan dilutes the potency of an individual's ability to select the congressional representative of his or her choice, and thereby violates the Free and Equal Elections Clause.").

89.    As explained above, HB 2146 was subject to vigorous scrutiny and was passed by a majority of assemblypersons in both chambers of the General Assembly.  In Pennsylvania, the General Assembly has 253 members, consisting of a Senate with 50 members and a House of Representatives with 203 members, and it is beyond cavil that the breadth and diversity of the assemblypersons' uniquely defined constituency reflect and represent, on the whole, the will of the people.

90.    Consequently, HB 2146 properly redistricted the Commonwealth into 17 congressional districts in accordance with the constitutional process for lawmaking as vested in the legislative branch, and the Court must find that the decisions and policy choices expressed by the legislative branch are presumptively reasonable and legitimate, absent a showing of an unconstitutional defect or deficiency. *Cf. Upham v. Seamon*, 456 U.S. 37, 41-42.

91.    Although Governor Wolf vetoed HB 2146 and that bill never obtained the official status of a duly enacted statute, neither Governor Wolf nor any other party herein has advanced any cognizable legal objection to the constitutionality of the congressional districts contained therein.

92.     Admittedly, due to the breakdown or stalemate in the legislative process, and the failure of the General Assembly and Governor to pass a redistricting statute to serve as the boundary lines and composition of congressional districts in the United States House of Representatives, this Court has been directed to assess the evidence and ultimately recommend a map to our Supreme Court to serve that very purpose.

93.     In absence of any cognizable legal or constitutional objection to the congressional districts in HB 2146 by the Governor and, without there being any basis upon which the Court could reasonably conclude or recommend that HB 2146 contravenes a constitutional or statutory violation, it is the considered judgment of the Court that the best course of action is to recognize and place appreciable weight to the fact that, on balance, HB 2146 represents "[t]he policies and preference of the state," *Upham*, 456 U.S. at 41; *see Perry*, 132 S. Ct. at 941, and constitutes a profound depiction of what the voters in the Commonwealth of Pennsylvania desire, through the representative model of our republic and democratic form of government, when compared to the Governor or any other of the parties or their *amici*.

94.     The Court believes that in, the context of this case, where it must recommend one map of many, as a matter of necessity, the interests of the Commonwealth as a sovereign state and political entity in its own right, would best be served by factoring in and considering that HB 2146 is functionally tantamount to the voice and will of the People, which, as a matter of American political theory since its founding, is a device of monumental import and should be honored and respected by all means necessary.

95.     Therefore, with all things being relatively equal with regard to the maps that the Court has not previously discounted or recommended not be adopted, the Court

214

respectfully recommends that our highest and most honorable institution in the judicial branch of government, our Supreme Court, recognize and revere the expressed will of the People, and the "policies and preferences of our State," *Upham*, 456 U.S. at 41; *see Perry*, 132 S. Ct. at 941, as previously stated, and adopt HB 2146 to represent the boundary lines for the Commonwealth of Pennsylvania in its creation of geographically-unique congressional districts so that the citizens of our great Commonwealth are ensured fair and equal representation in the United States House of Representatives.

96.     In so recommending, the Court notes that, in times like these, other courts throughout the nation, including the United States Supreme Court, have appeared to promote and head such an admonition.  For example, as the United States Supreme Court said in *Perry*: "Experience has shown the difficulty of defining neutral legal principles in this area, for redistricting ordinarily involves criteria and standards that have been weighed and evaluated by the elected branches in the exercise of their political judgment."  565 U.S. at 941.  And, as the United States Supreme Court instructed in another case:

> Just as a federal district court, in the context of legislative reapportionment, should **follow the policies and preferences of the State, as expressed in statutory and constitutional provisions or in the reapportionment plans proposed by the state legislature**, whenever adherence to state policy does not detract from the requirements of the Federal Constitution, we hold that a district court should similarly honor state policies in the context of congressional reapportionment.  In fashioning a reapportionment plan or in choosing among plans, **a district court should not pre-empt the legislative task nor intrude upon state policy any more than necessary**.

215

A1641

*Upham v. Seamon*, 456 U.S. 37, 41-42 (1982) (*per curiam*) (emphasis added).  The Court believes that these underlying principles are no less applicable to a state court's examination of the policies and preferences enunciated by a state's legislative branch of government and reflect a proper exercise of judicial restraint in not pre-empting this otherwise legislative task.

97.     For the above-stated reasons, and as its penultimate suggestion, the Court respectfully, yet firmly, **recommends that our Supreme Court adopt and implement HB 2146 as a matter of state constitutional law as it meets all of the traditional criteria of the Free and Equal Elections Clause, and does so in respects even noted by the Governor's expert, as well as the other considerations noted by the courts, it compares favorably to all of the other maps submitted herein, including the 2018 redistricting map, it was drawn by a non-partisan good government citizen, subjected to the scrutiny of the people and duly amended, it creates a Democratic leaning map which underscores its partisan fairness and, otherwise, is a reflection of the "<u>policies and preferences of the State, as expressed in statutory and constitutional provisions or in the reapportionment plans proposed by the state legislature</u>."** *Perry*, 132 S. Ct. at 941. (underlining added)  *See also Upham*, 456 U.S. at 42 (reaffirming that a federal district court "erred when, in choosing between two possible court-ordered plans, it failed to choose that plan which most closely approximated the state-proposed plan" because "[t]he only limits on judicial deference to state apportionment policy [] were the substantive constitutional and statutory standards to which such state plans are subject"); *Donnelly*, 345 F. Supp. at 965 (adopting the legislature's proposed plan, explaining that "[t]he legislative adoption of [redistricting plan] tips the scales in favor of the plan . . . which provides districts essentially as outlined by the legislature

216

. . ." and observing that the plan had "the added advantage that it is basically the plan adopted by the legislature").

### B. **Revised 2022 Primary Election Calendar Recommendations**

**2022 Pennsylvania Election Schedule**

FF1.  Under the current election schedule, Pennsylvania's 2022 General Primary Election, which will include the next congressional primary election, is scheduled for May 17, 2022.  *See* Section 603(a) of the Election Code, 25 P.S. §2753(a); ttps://www.dos.pa.gov/VotingElections/CandidatesCommittees/RunningforOffice/ Documents/2022%20Important%20Dates.pdf (last visited Feb. 2, 2022).

FF2.  Under the current election schedule, the first day to circulate and file nomination petitions is February 15, 2022.  *See* Section 908 of the Election Code, 25                                    P.S.                                    §2868; https://www.dos.pa.gov/VotingElections/CandidatesCommittees/RunningforOffice /Documents/2022%20Important%20Dates.pdf (last visited Feb. 2, 2022).

FF3.   Under the current election schedule, the last day to circulate and file nomination petitions is March 8, 2022.  *See* Section 977 of the Election Code, 25                         P.S.                         §                         2937; https://www.dos.pa.gov/VotingElections/CandidatesCommittees/RunningforOffice /Documents/2022%20Important%20Dates.pdf (last visited Feb. 2, 2022).

FF4. Under the current election schedule, the last day to file objections to nomination petitions is March 15, 2022.  *See* Section 977 of the Election Code, 25                         P.S.                         §                         2937;

217

A1643

https://www.dos.pa.gov/VotingElections/CandidatesCommittees/RunningforOffice/Documents/2022%20Important%20Dates.pdf (last visited Feb. 2, 2022).

1.    **Parties' Positions on Revisions to 2022 General Primary Election Calendar**

Senate Democratic Caucus Intervenors

FF5.   The Senate Democratic Caucus Intervenors suggested that the 2022 General Primary Election schedule "is essentially unworkable at this point in time." (N.T. at 1025.)  They claim "[i]t will disenfranchise millions of Pennsylvania voters and severely prejudice candidates running for public office if [the schedule] is not modified by the Pennsylvania Supreme Court." *Id.* at 1025.  They point to the fact the Legislative Reapportionment Commission has not yet approved a final legislative redistricting map, the instant litigation regarding a congressional district plan, and this Court's decision in *McLinko v. Department of State*, __ A.3d __ (Pa. Cmwlth., No. 244, 293 M.D. 2021, filed Jan. 28, 2022), as further support that the 2022 General Primary Election schedule should be adjusted, including postponing the primary.  (N.T. at 1025-26.)

House Democratic Caucus Intervenors

FF6.   The House Democratic Caucus Intervenors suggested that the Court should follow Judge Craig's decision in *Mellow*, in which he talked about "the idea of maintaining a single day for the primary as a paramount consideration in order [] to avoid confusion of potentially having a primary for congressional and a primary for everybody else on different timelines with different petitioning periods[.]" (N.T. at 1042.)

Congressional Intervenors

218

A1644

FF7. The Congressional Intervenors indicated their belief that "there is absolutely no reason to move the" 2022 General Primary Election calendar, with respect to the primary itself, as its "premature."  (N.T. at 1055.)  However, the Congressional Intervenors do think that the dates for circulating nomination petitions, among other dates, should be moved, and have been in the past, citing the *LWV III* case from 2018.  *Id.* at 1055-56.

Senate Republican Intervenors

House Republican Intervenors

FF8.  The House Republican Intervenors "would prefer to [sic] a least possible change to any election calendar[,]" and they "do not believe changing the primary date would be appropriate."  (N.T. at 1068.)

Senate Republican Intervenors

FF9.  The Senate Republican Intervenors take the position that any changes to the 2022 General Primary Election calendar could be addressed by the General Assembly, if necessary.  (N.T. at 1077-78.)  The Senate Republican Intervenors recognized that the Court has changed the dates in the past; however, "they feel that conditions are such that they must change now because of the legal posture of this matter."  *Id.* at 1078.  The Senate Republican Intervenors further believe that "changes should be limited only to what's absolutely necessary[,]" and they do not "support a shortening of the petition circulation and signature gathering window."  *Id.*  The Senate Republican Intervenors otherwise took no specific position as to this litigation's effect on the three pertinent dates that exist on the calendar.  *Id.*

Respondents

219

A1645

FF10.  The Acting Secretary of the Commonwealth noted at the hearing that the election "calendar situation at the moment is --- rather complicated[.]" (N.T. at 1092-93.)  Her counsel also informed that it would not be in the people of the Commonwealth's best interest to have two separate primaries. *Id.* at 1093.  As such, the Acting Secretary thinks "it would be preferable to have three weeks between the [] time of the final map, and really by final map we mean including the resolution and the appeal is adopted and the first date in the primary calendar." She continued, "if we had to we think we could probably do that in two weeks that in two weeks if we could transfer resources.  And there are other ways in which we could condense the existing calendar as well." *Id.* at 1094-95.

Governor Wolf

FF11.  Counsel indicated at the hearing that Governor Wolf "feels very strongly we should not divide the primary and we should end up with a primary date ultimately that will accommodate both redistricting processes that are currently still proceeding." (N.T. at 1096.)

Gressman Petitioners

FF12.  The Gressman Petitioners indicated that they do not believe moving the 2022 General Primary Election is necessary at this point. (N.T. at 1106.) Moreover, the Gressman Petitioners "would defer to the election administrators who are the professionals in that space, but [they] do recognize that there can be some compression of the preprimary schedule." *Id.*

Carter Petitioners

FF13.  The Carter Petitioners do not dispute that "the Court has the authority to change deadlines, including the primary deadline[,]" if necessary. (N.T.

220

A1646

at 1118.)  However, the Carter Petitioners did not think it was necessary at the time of the hearing.  *Id.*

The Court notes and recommends for adoption by the Supreme Court the Congressional Intervenors' proposed revisions to the 2022 General Primary Election calendar, which suggest February 22, 2022, as the deadline for adopting and implementing a congressional redistricting plan.  Specifically, the Congressional Intervenors propose that the following dates be changed:  (1) the first day to circulate and file nomination petitions; (2) the last day to circulate and file nomination petitions; and (3) the last day to file objections to nomination petitions.  According to the Congressional Intervenors, using February 22, 2022, as the deadline by which the state judiciary must adopt any congressional reapportionment plan, the Congressional Intervenors assert that it would still be feasible to hold the 2022 General Primary Election on its currently scheduled date of May 17, 2022, which is a similar course of action the Supreme Court followed in *LWV III*.  The current and revised election dates appear below:

2.    **Current 2022 General Primary Election Schedule**

- First day to circulate/file nomination petitions – Tuesday, February 15, 2022
- Last day to circulate and file nomination petitions – Tuesday, March 8, 2022
- Last day to file objections to nomination petitions – Tuesday, March 15, 2022
- 2022 General Primary Election – Tuesday, May 17, 2022

3.    **Proposed REVISED 2022 General Primary Election Schedule**

- First day to circulate/file nomination petitions – Tuesday, March 1, 2022
- Last day to circulate and file nomination petitions – Tuesday, March 15, 2022
- Last day to file objections to nomination petitions – Tuesday, March 22, 2022

221

A1647

- 2022 General Primary Election – Tuesday, May 17, 2022

The Court notes that the first two proposed revised dates, appearing immediately above, reflect a shift of exactly two weeks from the originally scheduled deadlines to the proposed revised deadlines.  The third proposed revised date listed immediately above reflects a shift of exactly one week from the originally scheduled objection deadlines.  The Court further notes that the above dates reflect the exact schedule adopted by the Supreme Court in *LWV III*, albeit two years later.

However, in light of the changed circumstances of this litigation prompted by the Supreme Court's February 2, 2022 order, granting Petitioners' Emergency Application for Extraordinary Relief and invoking its extraordinary jurisdiction, designating the undersigned as a Special Master in this matter and directing the filing of a Report and Recommendation, and further directing, *inter alia*, that oral argument on any exceptions filed to the Special Master's Report is scheduled to be held on February 18, 2022, before the Supreme Court, this Court recognizes that further and/or different changes to the election calendar than those recommended above may be necessary under the circumstances.[49]

s/ Patricia A. McCullough
PATRICIA A. McCULLOUGH, Judge of the Commonwealth Court of Pennsylvania Appointed as Special Master

---

[49] *Amicus* Participants Voters of the Commonwealth's Application for Leave to File Responsive Expert Report, filed on January 26, 2022, is denied. *See* 1/14/2022 Cmwlth. Ct. Order. This Court additionally notes that it will not consider the *Amici Curiae* Brief of NAACP Philadelphia Branch and Black Clergy of Philadelphia & Vicinity in Support of Senate Democratic Caucus' Proposed Redistricting Plan 2, filed on January 31, 2022, which was after the evidentiary hearing in this matter.

222

## IN THE SUPREME COURT OF PENNSYLVANIA

| | |
|---|---|
| CAROL ANN CARTER; MONICA PARRILLA; REBECCA POYOUROW; WILLIAM TUNG; ROSEANNE MILAZZO; BURT SIEGEL; SUSAN CASSANELLI; LEE CASSANELLI; LYNN WACHMAN; MICHAEL GUTTMAN; MAYA FONKEU; BRADY HILL; MARY ELLEN BALCHUNIS; TOM DEWALL; STEPHANIE MCNULTY; and JANET TEMIN,<br><br>Petitioners,<br><br>v.<br><br>LEIGH M. CHAPMAN, in her official capacity as the Acting Secretary of the Commonwealth of Pennsylvania; JESSICA MATHIS, in her official capacity as Director for the Pennsylvania Bureau of Election Services and Notaries,<br><br>Respondents. | No. 7 MM 2022 |
| PHILIP T. GRESSMAN; RON Y. DONAGI; KRISTOPHER R. TAPP; PAMELA GORKIN; DAVID P. MARSH; JAMES L. ROSENBERGER; AMY MYERS; EUGENE BOMAN; GARY GORDON; LIZ MCMAHON; TIMOTHY G. FEEMAN; and GARTH ISAAK,<br><br>Petitioners,<br><br>v.<br><br>LEIGH M. CHAPMAN, in her official capacity as the Acting Secretary of the Commonwealth of Pennsylvania; JESSICA MATHIS, in her official capacity as Director for the Pennsylvania Bureau of Election Services and Notaries,<br><br>Respondents. | |

## CARTER PETITIONERS' EXCEPTIONS TO THE SPECIAL MASTER'S REPORT

A1649

## TABLE OF CONTENTS

# I.   General Exception

1.   Erred in failing to display an image of the Carter Plan, in contrast to all the other plans under consideration (the "Submitted Plans"), which were each included in the Commonwealth Court's Report & Recommendation ("Rep."). *See* Rep. at 44 (FF1). For reference, the Carter Plan has been reproduced below.

**Figure 5: Proposed Congressional District Boundaries**
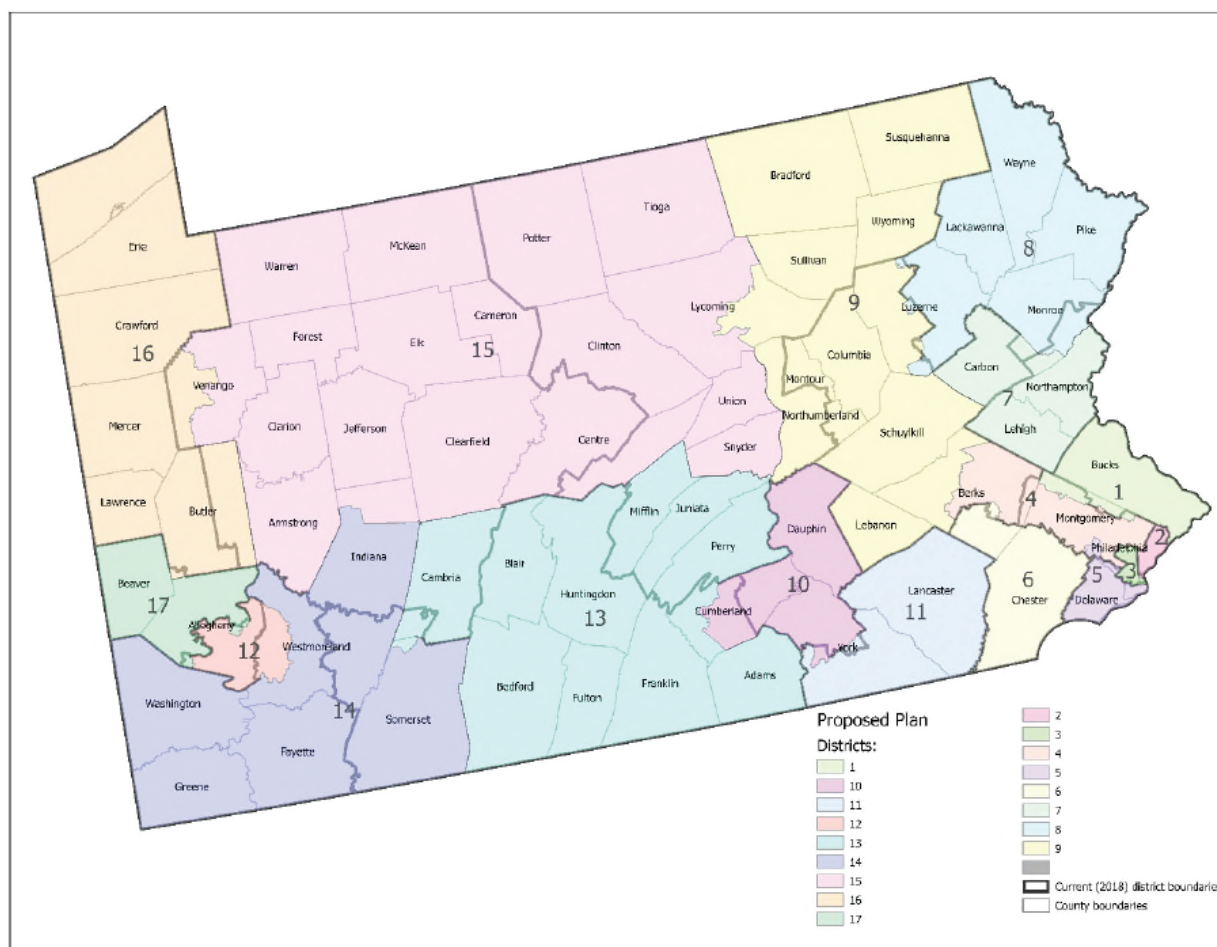


# II.   Expert Reports and Testimony

2.   Erred in finding that all experts in the case were equally qualified to offer expert opinions, regardless of whether the experts or their reports had been

1

subject to cross examination, and what that cross examination revealed. *See* Rep. at

114 (FF338).

3.      Erred in admitting into evidence additional expert reports submitted by

Dr. Thomas Brunell on behalf of the Congressional Intervenors and Dr. John Memmi

on behalf of the Senate Republican Intervenors. *See* Rep. at 114–15, 117.

4.      Erred in electing to credit opinions, analyses, and conclusions of certain

experts, including Dr. Michael Barber and Dr. Keith Naughton, but inconsistently

crediting the opinions, analyses, and conclusions of other experts, such as Dr.

Jonathan Rodden, Dr. Daryl DeFord, and Dr. Moon Duchin.

**A.      Dr. Jonathan Rodden (*Carter* Petitioners)**

5.      Erred in failing to find that Dr. Jonathan Rodden was the only expert

that testified during proceedings before the Special Master who actually drew the

map he or she was offering opinions on, and erred in not according the Carter Plan

more weight on that basis. *See* Rep. at 58–66 (FF1–51).

6.      Erred by finding that "Dr. Rodden did not give a straight answer"

"when asked about his overall conclusions about how the Carter plan compares to

the 2018 Remedial Plan." Rep. at 61 (FF25). Dr. Rodden testified that he was "able

to quantitatively analyze" how the Carter Plan compares to the 2018 Remedial Plan

by "looking at the population data and overlaying the maps . . . to get just a simple

measure that says what percentage of the population in each district that [he] created

2

was already in that district," which he did "district by district and look[ing] at the plan as a whole," ultimately concluding that "the maps were very similar . . . and the share of the population that was contained . . . in each district . . . [on] average, . . . was 87 percent." N.T. at 114–15.

7.      Erred by finding that "Dr. Rodden . . . appeared to admit that there may be a slight discrepancy in his calculation of HB 2146's total county subdivision splits." Rep. at 64 (FF44). Dr. Rodden testified that "*if* there [was] a slight discrepancy" between his calculation and the Legislative Data Processing Center's tabulation of HB 2146's total subdivision splits, it was probably due to "different municipal terminologies" used by Dr. Rodden and the Legislative Data Processing Center. N.T. at 151–53 (emphasis added).

8.      Erred by finding that "Dr. Rodden . . . did not conduct a simulation analysis in this case, although he was capable of doing so, because 'it didn't occur to [him] that drawing a [sic] 100,000 other plans was something that [he] should do.'" Rep. at 65 (FF46) (alterations in original). Dr. Rodden testified that, in this case, he was "asked to draw . . . a plan and evaluate its fairness," whereas the simulations analysis "is a technique that's used to identify gerrymandering and . . . to understand some aspects of political geography." N.T. at 158.

3

**B.     Dr. Michael Barber (House Republican Intervenors)**

9.      Erred in failing to find that Dr. Barber has limited experience using an algorithm to generate simulated plans prior to January 2022 and has never published in the areas of redistricting, partisan influence in the redistricting process, or simulated redistricting analyses, and thus erred in crediting Dr. Barber's simulations where there is no basis to do so. *See* Rep. at 165 (FF5, 8); 176 (FF20–23); 209 ¶ 66; *see also* N.T. at 561–62.

10.     Erred in failing to find that multiple courts have concluded that testimony given by Dr. Barber should be given little weight or no credit. *See, e.g.*, Rep. at 165 (FF11); *see also* N.T. at 562–66; *Common Cause v. Lewis*, No. 18 CVS 014001, 2019 WL 4569584, at *95 (N.C. Super. Ct. Sep. 3, 2019) ("In light of the above shortcomings in Dr. Barber's analysis, the Court gives little weight to his testimony."); *Jones v. DeSantis*, 462 F. Supp. 3d 1196, 1246 (N.D. Fla. 2020) (not crediting Dr. Barber's testimony).

11.     Erred in failing to find that Dr. Duchin found "clear errors of calculation" in Dr. Barber's findings. *See, e.g.*, Rep. at 165 (FF11); *see also* N.T. at 368.

12.     Erred in finding that any of Dr. Barber's opinions, calculations, or analyses were credible in light of evidence that Dr. Barber does not have the proper

4

expertise and credibility and does not employ a replicable and accurate methodology.

### C. Dr. Keith Naughton (Congressional Intervenors)

13. Erred in crediting the testimony of Dr. Naughton, despite finding that:

    a.    "Dr. Naughton . . . acknowledg[ed] that he [is] not a mathematician[,] . . . has 'no particular experience in redistricting,' and has never served as an expert in redistricting litigation before." Rep. at 93 (FF215); 95 (FF225); *see also* Rep. at 114 (FF338);

    b.    "Dr. Naughton conceded that he provided no quantitative analysis of how any of the proposed plans perform on the neutral redistricting criteria" and "Dr. Naughton agreed that his report 'does not identify any particular methodology' that he used to arrive at his conclusions, and does not 'cite any authority or particular evidence for [his] opinions.'" Rep. at 94 (FF219–220); *see also* Rep. at 114 (FF338); and

    c.    "[M]uch of [Dr. Naughton's] professional career has been dedicated to helping Republican candidates in Pennsylvania win their seats," and Dr. Naughton was retained in this case to testify on behalf of Republican interests. Rep. at 94 (FF218); *see also* Rep. at 114 (FF338).

14.    Erred in crediting Dr. Naughton's testimony over testimony of other experts in this case that have a proven body of credible expert work. *See, e.g.*, Rep. at 160 (FF22–28).

15.    Where the Court found that Dr. Naughton's expertise is based solely on his work experience in Pennsylvania campaign politics, Rep. at 93–94 (FF216–218), and Dr. Naughton admitted that he has not worked in Pennsylvania campaign politics since 2015, *see* Naughton Rebuttal Rep. Appx. 1 at 3; N.T. at 769, erred in crediting Dr. Naughton's testimony that:

    a.    Pittsburgh voters *presently* tend to particularly favor local candidates in statewide elections, *see* Rep. at 150 (FF10);

    b.    Pittsburgh voters *presently* share common interests in a representative's advocacy for the acquisition of federal funds and the obtaining of constituent services, *see* Rep. at 150 (FF11); and

    c.    Voters in Scranton and Wilkes-Barr *presently* prefer to be in separate districts, *see* Rep. at 96 (FF231)

despite Dr. Naughton admitting that he has not conducted or reviewed any public opinion polling in support of his opinions. *See* N.T. at 775–76.

16.    Erred in failing to find that Dr. Naughton conflated voter party identification with communities of interest. *See* Rep. at 96 (FF229).

6

A1656

## III.   Traditional Redistricting Criteria

17.    Erred in consistently finding that certain Submitted Plans, such as HB 2146 and the Reschenthaler Plans, are in compliance with the required redistricting principles, but failing to consistently find and credit that other Submitted Plans, such as the Carter Plan, are also in compliance with those same redistricting principles.

### A.   Contiguity

18.    No errors as to findings on contiguity.

### B.   Equal Population

19.    Erred in concluding that the maximum population deviation for congressional districts is 10 percent, where that is the standard for state legislative districts only, and the standard for congressional districts is "as nearly equal in population as practicable," which is satisfied by a deviation of plus or minus one person. *See* Rep. at 138 (CL3); *see also Evenwel v. Abbott*, 578 U.S. 54, 59–60 (2016) (specifying that the 10% maximum deviation threshold applies to state and local legislative districts).

20.    Erred in finding and concluding that the Carter Plan is to be given less weight for producing a two-person deviation, as opposed to one-person deviation, where the constitutional requirement that congressional districts be created "as nearly equal in population as practicable" is satisfied by a two-person deviation. *See*

7

Rep. at 138–39 (CL1–4; FF3). *See Carter Petitioners' Brief in Support of Exceptions* ("*Brief in Support*"), section III.A.1.

### C.    Compactness

21.    Erred in failing to find that the Carter Plan had one of the highest Reock compactness scores out of all of the Submitted Plans. *See* Rep. at 141 (FF4). *See Brief in Support*, section III.A.2.

### D.    Integrity of Political Subdivisions

22.    Erred in failing to compare across all plans the total number of splits of subdivisions, instead only comparing the number of subdivisions that were split (even if each subdivision was split more than once). *See* Rep. at 146 (FF36–38). *See Brief in Support*, section III.A.4.

23.    Erred in failing to find that the splitting of certain political subdivisions is more important in assessing a plan than the splitting of others, with the split of counties being the most important metric. *See* Rep. at 146–47 (FF36–43); *see also* N.T. at 250–51 (Dr. DeFord agreeing that it is more important to avoid a county split than a borough split). *See Brief in Support*, section III.A.4.

## IV.    Historical Redistricting Criteria

### A.    Communities of Interest

24.    Erred in finding that "Dr. Rodden . . . did not explicitly examine or appear to have considered the specific considerations that need to be taken into

8

account when establishing that splits maintain the surrounding communities of interest," where Dr. Rodden did in fact provide extensive and specific discussion in his report and during his testimony about the Carter Plan's preservation of communities of interest. Rep. at 156 (FF12); *see* Rodden Initial Rep. at 8–20 (Jan. 24, 2022) (specifically detailing decisions and tradeoffs to drawing boundaries for every district in the Carter Plan to achieve population equality, and specifically noting decisions to avoid splits in District 5, and unifying areas in Districts 7 and 15). *See Brief in Support*, section III.B.3.a.

25.   To the extent Dr. Naughton's testimony is to be credited, erred in failing to find that the Carter Plan is consistent with Dr. Naughton's suggested configurations of communities of interest across the state. Rep. at 151 (FF17), 157–59 (FF15–20); 210–11 ¶¶ 70–75; *see also* Rodden Initial Rep. at 14, 20 (Jan. 24, 2022) (consistent with Dr. Naughton's testimony, the Carter Plan keeps Bucks County whole, extended Bucks County into Montgomery County, attached portions of South Philadelphia with Delaware County, and did not split the City of Pittsburgh).

**B.   Incumbent Pairing**

26.   Erred in failing to find that, due to population loss in the center of Pennsylvania, the district that was eliminated was previously represented by a

9

Republican representative. *See* Rep. at 178 (FF1), 180 (FF11); *see also* Rodden Initial Rep. at 23 (Jan. 24, 2022). *See Brief in Support*, section III.B.3.c.

27.    Erred in finding that the pairing of representatives based on their party affiliation or status as a candidate can be more or less indicative of unfair burdens on incumbents. *See* Rep. at 179 (FF2–5).

### C.    Partisan Fairness

28.    Erred in failing to give more weight to the partisan fairness of the Carter Plan, given that it was the only plan expressly drawn without consideration of partisan performance. *See generally* Rep. at 162–76; N.T. at 117–18.

29.    Erred in relying on metrics related to human geography and simulations as benchmarks of partisan fairness. *See generally* Rep. at 162–66. *See Brief in Support*, section III.B.1.b.

30.    Erred in finding that the difference of "a few percentage points" is insignificant in evaluating mean-median calculations, where this Court has credited expert testimony asserting that the "range" of what is considered normal for this metric is in the narrow range between zero to four percentage points. Rep. at 172 (FF25); *see League of Women Voters v. Commonwealth*, 178 A.3d 737, 774 (Pa. 2018).

31.    Erred in crediting Dr. Barber's simulations over Dr. Duchin's simulations, as well as crediting Dr. Barber's calculations of the Efficiency Gap

metric over other experts, where every other expert that performed the calculation found HB 2146 to be significantly more unfair. *See* Rep. at 176 (FF22). *See Brief in Support*, section III.B.1.a.

32.     Erred in concluding that plans which prioritize proportional election outcomes such as "negating a natural geographic disadvantage to achieve proportionality at the expense of traditional redistricting criteria" will *per se* violate the Pennsylvania Constitution's Free and Equal Elections Clause, where proportionality is an important proxy for measuring partisan skew or unfairness as it relates to the desires of the state's voters. Rep. at 177. *See Brief in Support*, section III.B.1.b.

33.     Erred in concluding that proportionality is not a "goal of redistricting" and thus "any plan that attempts to achieve proportionality . . . must be disregarded." Rep. at 178 (CL1; FF1). *See Brief in Support*, section III.B.1.b.

34.     Even accepting the erroneous conclusion that a plan that results in proportional election outcomes is *per se* a violation of the Free and Equal Elections Clause of the state's constitution, erred in failing to find that, pursuant to the opinion of Dr. Barber, which the Special Master has erroneously chosen to credit, HB 2146 shows a Democratic skew of 9 Democrat-leaning districts (*see infra* ¶ 40), and thus would also be a *per se* violation of the Pennsylvania Constitution. Rep. at 177; *see also* Barber Rebuttal Rep. at 15 (Jan. 26, 2022).

11

A1661

#### D.    Least Change

35.    Erred in concluding that the least-change approach is of "limited utility," and that utilizing the least-change approach is different from evaluating redistricting plans against traditional criteria, where comparison to the 2018 Remedial Plan is a way to measure the degree to which the Carter Plan mirrors a map previously drawn by this Court that maximized adherence to every redistricting principle and where preservation of prior districts is a redistricting principle specifically enumerated by this Court. Rep. at 184 (CL3–4). *See Brief in Support*, section III.B.2.

36.    Erred in concluding that the *Carter* Petitioners were proposing reliance on the least-change doctrine as a way to require, or sanction, a court to defer to its own prior redistricting map, where the least-change doctrine is merely crediting the most recent constitutional map, regardless of whether it was enacted by a legislature or drawn by a court. *See* Rep. at 187 (CL11). *See Brief in Support*, section III.B.2.

37.    Erred in finding that the *Carter* Petitioners elevated a "subordinate factor into a dominate one" and thus "violate[d] the Free and Equal Elections Clause as a matter of law," where the evidence showed that the Carter Plan sufficiently meets every one of the traditional *and* historical redistricting factors, that Dr. Rodden drew the Carter Plan with particular attention to those redistricting criteria, and that the least-change analysis is also a way to measure the degree to which the Carter

12

A1662

Plan adheres to the redistricting principles as established by this Court just four years ago. Rep. at 187 (FF10). *See Brief in Support*, section II.B.

38.    Erred in finding that Dr. Rodden's calculations of retained population share was not useful because "Dr. Rodden does not explain the extent to which the percentages of retained population share is either acceptable or so disparate so as to justify the elimination of any of the other plans or conversely to prioritize the Carter Plan based on this criterion," where Dr. Rodden expressly offered the calculations as a way to compare which of the Submitted Plans retained the highest population distribution from the 2018 Remedial Plan, and thus least disrupts the existing districts. Rep. at 185 (FF7); Rodden Rebuttal Rep. at 1–2 (Jan. 26, 2022).

## V.    HB 2146

39.    Erred in concluding that the HB 2146 Plan should be accorded any particular deference because it passed the legislative branch, given that it was vetoed by Governor Wolf and the veto has not been overridden. Rep. at 215–16 ¶¶ 96–97. *See Brief in Support*, section III.C.

40.    Erred in finding that the HB 2146 Plan predicted a result of 9 Democratic-leaning seats and 8 Republican-leaning seats, and is thus more favorable to Democrats, when in fact HB 2146 is more favorable to Republicans and will likely result in the election of at least 9 Republicans. *See* Rep. at 211 ¶ 78; Rodden Rebuttal Rep. at 9–11 (Jan. 26, 2022).

Dated: February 14, 2022

Abha Khanna (PHV)
Elias Law Group LLP
1700 Seventh Ave, Suite 2100
Seattle, WA 98101
akhanna@elias.law
T: (206) 656-0177

Lalitha D. Madduri (PHV)
Christina A. Ford (PHV)
Jyoti Jasrasaria (PHV)
Joseph Posimato (PHV)
Raisa Cramer (PHV)
Elias Law Group LLP
10 G St. NE, Suite 600
Washington, D.C. 20002
lmadduri@elias.law
cford@elias.law
jjasrasaria@elias.law
jposimato@elias.law
rcramer@elias.law
T: (202) 968-4490

Matthew Gordon (PHV)
Perkins Coie LLP
1201 Third Avenue Suite 4900
Seattle, WA 98101
MGordon@perkinscoie.com
T: (206) 359-3552

Respectfully submitted,

*/s/ Edward D. Rogers*
Edward D. Rogers (PA 69337)
Marcel S. Pratt (PA 307483)
Robert J. Clark (PA 308105)
Michael R. McDonald (PA 326873)
Paul K. Ort (PA 326044)
Ballard Spahr LLP
1735 Market Street, 51st Floor
Philadelphia, PA 19103
RogersE@ballardspahr.com
PrattM@ballardspahr.com
ClarkR@ballardspahr.com
McDonaldM@ballardspahr.com
OrtP@ballardspahr.com
T: (215) 665-8500
F: (215) 864-8999

**Counsel for Carter Petitioners**

14

A1664

## IN THE SUPREME COURT OF PENNSYLVANIA

|  |  |
|---|---|
| CAROL ANN CARTER; MONICA PARRILLA; REBECCA POYOUROW; WILLIAM TUNG; ROSEANNE MILAZZO; BURT SIEGEL; SUSAN CASSANELLI; LEE CASSANELLI; LYNN WACHMAN; MICHAEL GUTTMAN; MAYA FONKEU; BRADY HILL; MARY ELLEN BALCHUNIS; TOM DEWALL; STEPHANIE MCNULTY; and JANET TEMIN,<br><br>Petitioners,<br><br>v.<br><br>LEIGH M. CHAPMAN, in her official capacity as the Acting Secretary of the Commonwealth of Pennsylvania; JESSICA MATHIS, in her official capacity as Director for the Pennsylvania Bureau of Election Services and Notaries,<br><br>Respondents. | No. 7 MM 2022 |

PHILIP T. GRESSMAN; RON Y. DONAGI; KRISTOPHER R. TAPP; PAMELA GORKIN; DAVID P. MARSH; JAMES L. ROSENBERGER; AMY MYERS; EUGENE BOMAN; GARY GORDON; LIZ MCMAHON; TIMOTHY G. FEEMAN; and GARTH ISAAK,

Petitioners,

v.

LEIGH M. CHAPMAN, in her official capacity as the Acting Secretary of the Commonwealth of Pennsylvania; JESSICA MATHIS, in her official capacity as Director for the Pennsylvania Bureau of Election Services and Notaries,

Respondents.

**CARTER PETITIONERS' BRIEF IN SUPPORT OF
EXCEPTIONS TO THE SPECIAL MASTER'S REPORT**

A1665

**TABLE OF CONTENTS**

# TABLE OF AUTHORITIES

**Page(s)**

**Cases**

iv

Pursuant to this Court's February 2, 2022 Order, the *Carter* Petitioners respectfully submit the following Brief in Support of Exceptions to the Commonwealth Court's Special Master's Report and urge this Court to adopt the Carter Plan as the Commonwealth's next congressional map.

## I.     INTRODUCTION

Four years ago, in *League of Women Voters of Pennsylvania v. Commonwealth*, 181 A.3d 1083 (Pa. 2018) ("*LWV II*"), this Court invalidated the state's 2011 congressional map as an unconstitutional partisan gerrymander and subsequently adopted a remedial congressional map that reflected the physical and political geography of the Commonwealth (the "2018 Remedial Plan"). In its accompanying opinion, this Court articulated the following redistricting principles to protect against partisan vote dilution: congressional districts should be compact, contiguous, equal in population, and maintain the integrity of political subdivisions. Of all the plans before the Court at the time, the 2018 Remedial Plan best reflected these criteria.

Now, in 2021, the Carter Plan is the map before this Court that best reflects these criteria and the underlying principle of equal representation they seek to protect. The Carter Plan not only performs as well or better on all traditional and historical redistricting standards than the other submissions before this Court (the "Submitted Plans"), it is also undisputedly the map that hews closest to this Court's

A1670

2018 Remedial Plan, preserving the cores and lines of current districts to the greatest extent possible, while accounting for changes in the Commonwealth's population over the past decade. In fact, the Carter Plan *improves* upon the 2018 Remedial Plan's compliance with the traditional redistricting criteria articulated in *League of Women Voters*, as well as upon historical considerations like preserving communities of interest. None of the other Submitted Plans has fewer county splits, and only one plan splits fewer precincts. And, in adhering to these criteria, the Carter Plan is unsurpassed on partisan fairness.

The Carter Plan effectively guarantees the Commonwealth's constitutional promise to Pennsylvania's citizens that elections will be free and fair and that no votes will be diluted. This Court underscored in 2018 that the "overarching objective" of the Pennsylvania Constitution's Free and Equal Elections Clause "is to prevent dilution of an individual's vote by mandating that the power of his or her vote in the selection of representatives be equalized to the greatest degree possible with all other Pennsylvania citizens." *League of Women Voters v. Commonwealth*, 178 A.3d 737, 817 (Pa. 2018) ("*LWV I*"). Accordingly, this Court viewed the neutral redistricting criteria as a "floor" to protect against vote dilution, *id.*, using them not as ends unto themselves but as tools to measure what really mattered—whether a congressional map unfairly dilutes votes. *Id.* at 816. The Carter Plan stands out for embodying equal participation through partisan fairness. It performs exceptionally

2

A1671

well on the fairness metrics considered by experts in this case, yet was not drawn with a partisan outcome in mind. The Carter Plan is the *only* plan whose map-drawer himself testified to the process and goals, and Dr. Rodden's unrebutted testimony demonstrates that he drew the Carter Plan without partisan intent.

In sum, the Carter Plan meets or surpasses the performance of the 2018 Remedial Plan as well as the other Submitted Plans on traditional redistricting criteria, is superior or comparable to other plans on historical criteria, best reflects the political preferences of Pennsylvania voters, and best preserves the features of the districts in the 2018 Remedial Plan that this Court chose just four years ago. In contrast, HB 2146, the plan recommended by the Special Master, falls well below the Carter Plan on traditional and historical redistricting criteria and fares particularly poorly on partisan fairness measures, which reveal it to be among the most biased of the plans—and thus among the most likely to dilute votes in contravention of the constitutional command of equal representation. To ensure that command is fulfilled, the Court should adopt the Carter Plan in full.

## II.    CREATING THE CARTER PLAN

**A.    This Court's 2018 Remedial Plan is a logical and compelling starting point.**

As this Court knows well, Pennsylvania's current congressional redistricting map is the culmination of months-long litigation, a record developed in the Commonwealth Court, and myriads of map submissions from parties, intervenors,

and *amici*. *See LWV II*, 181 A.3d at 1086–87. After invalidating the 2011 plan as a partisan gerrymander, this Court drew and adopted the 2018 Remedial Plan because it was "superior or comparable" on every standard that the Court considered. *Id.* at 1087.

Those standards, which this Court and the federal courts have developed over decades, fit into two principal categories. First, there are several "neutral criteria" (referred to herein as "traditional criteria") used as the primary means to assess congressional redistricting plans: (1) population equality; (2) compactness; (3) contiguity; and (4) respect for political subdivisions. *Id.*; *LWV I*, 178 A.3d at 816–17. Second, if a plan complies with these four neutral principles, the court should look to so called "historical criteria," *i.e.*, "other factors [that] have historically played a role in the drawing of legislative districts, such as the preservation of prior district lines, protection of incumbents, or the maintenance of the political balance which existed after the prior reapportionment." *LWV I*, 178 A.3d at 817; *see also Mellow v. Mitchell*, 607 A.2d 204, 206 (Pa. 1992) (listing "effectuating adequate representation of a minority group," "maintaining relationships of shared community interests," and "not unduly departing from the useful familiarity of existing districts" as "advanc[ing] the cause of equality" in congressional redistricting); *id.* at 207 (including "avoiding contests between incumbent Representatives" as a "legitimate state objective" in congressional redistricting

4

(quoting *Karcher v. Daggett*, 462 U.S. 725, 740 (1983))); *id.* at 210 (considering whether a congressional plan was "politically fair").

These standards enable courts to assess the fundamental underlying principle—whether a plan upholds the guarantee of "free and equal" elections promised by the state's constitution by not diluting the power of any Pennsylvanians' votes. *LWV I*, 178 A.3d at 816. The objective is "representational districts that both maintain the geographical and social cohesion of the communities in which people live and conduct the majority of their day-to-day affairs, and accord equal weight to the votes of residents in each of the various districts." *Id.* at 814, 816.

The 2018 Remedial Plan has proven especially successful in meeting these goals. In Pennsylvania's 2018 and 2020 elections, the current map produced a congressional delegation that mirrors the partisan preferences of Pennsylvania's voters. Rodden Initial Rep. at 25 (Jan. 24, 2022). These elections also demonstrated that the current map allows for relatively competitive elections that respond to changes in Pennsylvania voters' preferences. *Id*. at 6. In sum, the 2018 Remedial Plan reflects a careful balancing of historical and traditional redistricting factors and provides the most recent guidance both on the drawing of a proposed congressional plan and the criteria by which it should be evaluated.

5

A1674

**B.     The Carter Plan was drawn to build upon the 2018 Remedial Plan's "superior" adherence to both traditional and historical redistricting criteria.**

The Carter Plan was drawn by Dr. Jonathan Rodden, a professor of political science at Stanford University, who has published extensively on political representation, geographic location of demographic and partisan groups, and the drawing of electoral districts. *Id.* at 1–2. Dr. Rodden has been accepted and testified as an expert witness in six election law and redistricting cases, including most recently in two redistricting cases in Ohio in January 2022, in which the Ohio Supreme Court credited his maps and analysis. *Id.* at 2.

Dr. Rodden's map-drawing process began with the 2018 Remedial Plan, which is widely acknowledged as a successful plan on both traditional redistricting criteria and partisan fairness. N.T. at 87–89, 247–48. His primary considerations in drawing the Carter Plan were to adhere to the traditional redistricting criteria while accounting for Pennsylvania's population changes since 2010. Rodden Initial Rep. at 1 (Jan. 24, 2022). 2020 Census data show that, due to its relatively slow population growth compared to the nation, Pennsylvania is now entitled to one fewer congressional seat. And population changes within the Commonwealth have been asymmetric: while metropolitan and relatively densely populated areas of the state, like southeastern Pennsylvania and Allegheny County, gained population and grew denser, rural and relatively sparsely populated areas of the state generally lost

6

A1675

population. *Id.* at 6–7. As a result, major reconfigurations of existing districts are unavoidable in rural Pennsylvania, whereas metropolitan districts required only fine-tuning based on localized variations in the rate of population growth. *Id.* at 8–9.

When drawing the Carter Plan, Dr. Rodden did not consider partisan or racial data. N.T. at 117–18; Rodden Initial Rep. at 23 (Jan. 24, 2022). Rather, he made adjustments to the 2018 Remedial Plan with the goal of maintaining and improving its adherence to traditional and historical redistricting criteria. For example, Dr. Rodden avoided splitting communities of interest and, where possible, reunited communities of interest that were previously split in the 2018 Remedial Plan, such as in Carbon County. *See* N.T. at 107, 111, 113–14.

Dr. Rodden took a least-change approach because the 2018 Remedial Plan is a constitutional, fair map that this Court has determined reflected both redistricting standards and the underlying principle of equal representation. *See* N.T. at 89. Contrary to the Special Master's characterization, the Carter Plan does not "elevate a subordinate factor into a dominant one" by using the least-change approach. Rep. at 187 (FF10). Rather, Dr. Rodden drew the map to comply—and it does comply— with all traditional redistricting criteria, none of which were "subordinate[d]" to another criterion. In these circumstances, a least-change approach was an effective means to meet the dominant traditional and historical redistricting principles that the 2018 Remedial Plan embodies. And such an approach has the added benefit of

7

ensuring continuity for voters, N.T. at 410–11, which is one of the reasons why this Court recognized preserving district lines as a valid redistricting criterion. *LWV I*, 178 A.3d at 816–17.

Notably, Dr. Rodden was the only map-drawer to testify. As a result, unlike every other plan, the Carter Plan's process of creation can be accurately assessed as to underlying motivations and rationale. That the Carter Plan—alone among the Submitted Plans—has transparency about its provenance should be lauded, not criticized as the Special Master did, and this fact only bolsters its credibility for adoption by this Court.

### III. REDISTRICTING PRINCIPLES

**A.** **The Carter Plan complies with all four traditional redistricting criteria.**

The Carter Plan complies with the four traditional principles of redistricting identified by this Court in *League of Women Voters*, including (1) population equality, (2) compactness, (3) contiguity, and (4) integrity of political subdivisions. *See LWV II*, 181 A.3d at 1087. Notably, the Carter Plan performs among the best of the Submitted Plans across all four criteria.

#### 1. The Carter Plan has equal population.

The Carter Plan complies with the *League of Women Voters* principle of population equality. A congressional redistricting plan "should consist of: congressional districts . . . as nearly equal in population as practicable." *Id.* at 1085.

Under the "one person, one vote" principle, congressional districts within a state must have equally apportioned numbers of persons. *See Wesberry v. Sanders*, 376 U.S. 1, 7–8 (1964). For federal congressional districts, "extremely small deviations in district populations may be justified by, inter alia, a desire to avoid splitting of political subdivisions and precincts, to provide adequate representation to a minority group, and/or to preserve communities of interest." *Mellow*, 607 A.2d at 208.

Based on the 2020 Census, the ideal population of each congressional district is 764,865. Rodden Initial Rep. at 21 (Jan. 24, 2022). Each of the proposed maps, including the Carter Plan, creates 17 districts in which the population, based on 2020 Census data, is either precisely that number, one more, or one fewer. Rodden Rebuttal Rep. at 2 (Jan. 26, 2022). The Carter Plan includes four districts with the ideal population and 13 districts with a deviation of plus or minus one person. Rodden Initial Rep. at 21 (Jan. 24, 2022).

The Special Master wrongly gave less weight to the Carter Plan based on its maximum two-person population deviation. *See* Rep. at 139 (FF3). The Special Master cites no authority supporting her decision, and population deviations of plus or minus one person have long been considered to satisfy the population equality standard. *See Mellow*, 607 A.2d at 208 (adopting plan that had a total maximum deviation of "0.0111%"); *Kalson v. Paterson*, 542 F.3d 281, 285 n.6 (2d Cir. 2008) (stating that New York's congressional districts "each . . . had the same total

9

population of 654,360" with "deviations [of] plus or minus one person"); *Essex v. Kobach*, 874 F. Supp. 2d 1069, 1088 (D. Kan. 2012) ("The Court's plan results in two districts with populations of 713,278 and two with populations of 713,281. Such a distribution provides equality among Kansas voters as nearly as practicable, and therefore satisfies Article I, Section 2 of the U.S. Constitution."); *Colleton Cnty. Council v. McConnell*, 201 F. Supp. 2d 618, 664 (D.S.C. 2002) ("In keeping with our overriding concern, the court plan complies with the 'as nearly as practicable' population equality requirement of Article 1, § 2 of the Constitution . . . with a deviation of plus or minus one person." (citing *Karcher*, 462 U.S. at 730)).

This Court itself has previously adopted a map with a much greater deviation than two persons, selecting that plan over others, including a map with zero deviation. *See Mellow*, 607 A.2d at 208. This illustrates the Special Master's error in giving less weight to the Carter Plan.

Indeed, congressional maps with population deviations of two or more persons are commonplace across the country. *See, e.g.*, Oregon (two-person population range after 2010 redistricting cycle);[1] Georgia (two-person population

---

[1] *See* "2010 Redistricting Deviation Table," Nat'l Conf. State Legislatures (Jan. 15, 2020), https://www.ncsl.org/research/redistricting/2010-ncsl-redistricting-deviation -table.aspx.

10

range after 2010 redistricting cycle);[2] Colorado (two-person population range in court-enacted plan after 2000 redistricting cycle);[3] Maryland (two-person population range after 2000 redistricting cycle).[4] And counsel is not aware of a single case striking down a congressional map based on a two-person deviation. Thus, precedent and historical practice roundly undermine the Special Master's decision to assign less weight to the Carter Plan because of its population deviation.

To summarize, the Carter Plan has a minimal population deviation that has never been found to violate the equal population principle and, in fact, complies with the standard that has been articulated by multiple courts. It thus satisfies the constitutional requirement of population equality, and the maximum two-person deviation is no basis for giving it less weight.[5]

---

[2] *See id.*; *see also* "Justice Approves Georgia's Redistricting Plans," Ga. Dep't of Law (Dec. 23, 2011), https://law.georgia.gov/press-releases/2011-12-23/justice-approves-georgias-redistricting-plans (announcing preclearance by U.S. Department of Justice).

[3] *See* "Designing P.S. 94-171 Redistricting Data for the Year 2010 Census," U.S. Census Bureau (Sept. 2004), https://www2.census.gov/programs-surveys/rdo/2010_pl94-171rv.pdf, at 26; *Beauprez v. Avalos*, 42 P.3d 642 (Colo. 2002) (adopting plan).

[4] *See* U.S. Census Bureau, supra note 3; *Duckworth v. State Bd. of Elections*, 213 F. Supp. 2d 543 (D. Md. 2002) (rejecting challenge to plan that did not allege unconstitutional population deviation), *aff'd* 332 F.3d 769 (4th Cir. 2003).

[5] Nevertheless, Dr. Rodden drew a very slightly revised map, which includes twelve districts with the ideal population and five districts with one fewer person than the ideal. *See* Exhibit A. The only changes he made were to further equalize population, which resulted in an additional split of a Vote Tabulation District ("VTD") but did not otherwise impact any of the plan-wide metrics that Dr. Rodden reported. *Id.*

11

## 2.     The Carter Plan is compact.

The Carter Plan complies with the *League of Women Voters* principle of compactness. A congressional redistricting plan "should consist of: congressional districts composed of compact . . . territory." *LWV II*, 181 A.3d at 1085; *see also Miller v. Johnson*, 515 U.S. 900, 916 (1995); *Brown v. Thomson*, 462 U.S. 835, 842 (1983). However, there is no bright-line test to determine whether a plan is sufficiently compact to satisfy the criterion. *See* N.T. at 404–05. Nor is there a widely accepted "best" measure of compactness, as each measure of this principle achieves something different. Because each method has certain limitations, it is important to consider how maps perform across multiple metrics. Rodden Rebuttal Rep. at 3 (Jan. 26, 2022); N.T. at 214.

To evaluate compactness, this Court has relied on the Reock and Polsby-Popper measures. *See LWV I*, 178 A.3d at 771–72 (calling the Reock and Polsby-

---

Avoiding an additional VTD split is precisely the kind of tradeoff that courts, including this Court, have recognized as reason to allow minor population deviations—indeed, much greater deviations than the Carter Plan's. *Mellow*, 607 A.2d at 208, 218 (holding that a deviation of 0.0111% was "fully justified by the policy of preserving municipalities and precincts" and adopting the Special Master's conclusion that "a serious election administration problem arises from requiring the voters in a single precinct to look to two different sets of congressional candidates"); *Shayer v. Kirkpatrick*, 541 F. Supp. 922, 933 (W.D. Mo. 1982), *aff'd sub nom.*, *Schatzle v. Kirkpatrick*, 456 U.S. 966 (1982) (holding that departures from mathematical perfection are justified by avoiding the splitting of election precincts). However, to the extent this Court agrees with the Special Master's equal population analysis, the *Carter* Petitioners respectfully request that this Court consider and adopt the Revised Carter Plan set forth in Exhibit A.

12

A1681

Popper metrics "widely-accepted standards"). According to these measures, the

Carter Plan closely mirrors or exceeds the respective compactness scores of the 2018

Remedial Plan: it matches the 2018 Remedial Plan's Reock score, does better than

the 2018 Remedial Plan on the Schwartzberg metric, and falls just shy of matching

(each by 0.01) the 2018 Remedial Plan's Population Polygon and Convex Hull

scores. Rodden Initial Rep. at 22 tbl. 5 (Jan. 24, 2022).

Moreover, the Carter Plan is similarly compact to the other Submitted Plans.

*See* DeFord Rebuttal Rep. ¶ 25 tbl. 8 (Jan. 26, 2022). In particular, the Carter Plan's

Reock compactness score is the second-highest among the Submitted Plans. *Id*. One

of the least compact plans is HB 2146, the plan that the Special Master

recommended. N.T. at 335.

Compactness scores in particular can be sensitive to individual redistricting

choices that account for other traditional criteria. *See* N.T. at 398–99 (Dr. Duchin

explaining that complying with traditional redistricting factors is a balancing act).

For instance, the Carter Plan's somewhat lower Polsby-Popper score reflects Dr.

Rodden's decision to keep the city of Pittsburgh whole; splitting Pittsburgh would

have improved the plan's score on that measure, but at the expense of preserving the

Commonwealth's second-largest city. *See* N.T. at 217 (Dr. DeFord explaining that

maps that keep Pittsburgh whole obtain lower, though still compliant, Polsby-Popper

scores than those maps that split Pittsburgh); Rep. at 148 (FF4). Similarly, some of

13

the Carter Plan's slightly lower compactness measures result from the effort to maintain population equality in Districts 4 and 5 by accommodating asymmetries in the rate of population growth between Montgomery, Delaware, and Bucks Counties while minimizing county splits in southeastern Pennsylvania. Rodden Initial Rep. at 23 (Jan. 24, 2022).

In sum, the Carter Plan is superior or comparable on the criterion of compactness to both the 2018 Remedial Plan and the other Submitted Plans.

### 3. The Carter Plan is contiguous.

The Carter Plan complies with the *League of Women Voters* principle of contiguity. A congressional redistricting plan "should consist of: congressional districts composed of . . . contiguous territory." *LWV II*, 181 A.3d at 1085; *see also Miller*, 515 U.S. at 916. Of particular concern are districts that contain shapes or formations, such as "isthmuses" or "tentacles" that destroy or strain the notion of contiguity of a district. *LWV I*, 178 A.3d at 819. The Carter Plan, like each of the other Submitted Plans, is composed of contiguous districts.

### 4. The Carter Plan maintains political subdivisions.

Finally, the Carter Plan also complies with the *League of Women Voters* principle of respect for political subdivisions. A congressional redistricting plan "should consist of: congressional districts . . . which do not divide any county, city, incorporated town, borough, township, or ward, except where necessary to ensure

14

A1683

equality of population." *LWV II*, 181 A.3d at 1085; *see also Karcher*, 462 U.S. at 740–41; *Reynolds v. Sims*, 377 U.S. 533, 580–81 (1964).

The Carter Plan splits fewer political subdivisions than the 2018 Remedial Plan, Rodden Initial Rep. at 21–22 (Jan. 24, 2022), and maintains the integrity of political subdivisions as well as or better than the other Submitted Plans. The Carter Plan is especially effective at maintaining the integrity of counties and Vote Tabulation Districts ("VTDs"), which are equivalent to precincts.

There are two different ways to measure splits of subdivisions such as counties. The first is to measure the *number* of split counties in a plan, which is the number of counties that are not kept whole, regardless of how many times they are split. Rodden Rebuttal Rep. at 3 (Jan. 26, 2022). However, this measure does not capture multiple splits of a single county. For that reason, it is also important to consider the *total* number of county splits in a plan, as that captures more fully the number of *times* counties are split. For example, if a county is split between three districts, the non-contiguous splits of the county are counted as two splits rather than one. *Id*. at 3–4.

Among all the political subdivisions, it is most important to keep counties whole, *see* N.T. at 250–51 (Dr. DeFord explaining that counties are a "more fundamental political unit" than others), and the Carter Plan excels on that metric. The Carter Plan is tied for both fewest *number* of split counties and *total* county

15

splits among the Submitted Plans. Rodden Rebuttal Rep. at 4 tbl. 2 (Jan. 26, 2022).[6]

The Carter Plan ties with the Reschenthaler Plans for fewest *number* of split

counties, 13, but the Reschenthaler Plans each have 18 *total* county splits, one more

than the Carter Plan, which has 17. *Id*. at 3–4. The Carter Plan ties with the Citizen

Voters Plan and Voters of PA Plan on the *total* county splits, but those plans have a

higher *number* of split counties, at 14 and 15 splits respectively. *Id*. Thus, when

considering both metrics of county splits, the Carter Plan best maintains the integrity

of Pennsylvania counties.

Another type of political subdivision is a VTD—another term for a precinct.

For election administration, splitting VTDs can lead to mistakes for local election

administrators who must be sure to provide the right ballot for residents living in

---

[6] The counting of county splits varies depending on whether a small six-person non-contiguous fragment of Chester County is counted as a "split" if it is placed in a different district than the rest of Chester County. In calculating county splits in the plan it adopted, the *League of Women Voters* Court did not count the separation of that fragment from Chester County because it was more "appropriate[ to] place[ it] inside the district that contains Delaware County." *LWV II*, 181 A.3d at 1087 n.10. Dr. Rodden maintained that aspect of the 2018 Remedial Plan, such that the Chester County fragment continues to be "appropriately placed" inside District 5 with Delaware County and is kept contiguous with its surrounding area, and to ensure contiguity of the districts. Thus, Dr. Rodden's tabulation of county splits in his first report reflected that guidance and reported the number of split counties in the Carter Plan as 13. Rodden Initial Rep. at 21 (Jan. 24, 2022). In his response report, Dr. Rodden prepared a comparative table of county splits, but due to the time constraints, he was unable to fully assess all technicalities in each of the 13 other submitted plans, including their treatment of the Chester County fragment, so for illustrative purposes he counted any split, no matter its size and location, including the Chester County fragment. Rodden Rebuttal Rep. at 4 (Jan. 26, 2022).

two different political districts, even though they might be voting at the same polling place. *See Mellow*, 607 A.2d at 218 (Special Master opinion explaining that "a serious election administration problem rises from requiring the voters in a single precinct to look to two different sets of congressional candidates," and emphasizing that this "problem is not a minor one"). When seeking to establish districts of equal population, VTDs are oftentimes split because they do not add up to precisely the right numbers, especially where map-drawers are working within a very narrow allowable deviation, like plus or minus one person. Rodden Rebuttal Rep. at 6 (Jan. 26, 2022).

Nevertheless, it is possible to minimize these splits, and the Carter Plan splits only 14 VTDs, the second-lowest number among the Submitted Plans. *Id.*[7] In contrast, other plans, such as both Reschenthaler Plans and the Ali Plan, each split twice as many VTDs. *Id.* For these reasons, the Carter Plan is one of the best plans at maintaining political subdivisions.

The Special Master's analysis of subdivision splits, *see* Rep. at 141–47, ignored that the Carter Plan has the fewest or second-fewest number of both county and VTD splits. That oversight is particularly problematic given that counties are

---

[7] Dr. Rodden's revised plan splits one additional VTD in order to further equalize population. *See supra* note 5; *see also* Ex. A. With 15 VTD splits, the Revised Carter Plan still splits the second lowest number of VTDs among the Submitted Plans. Rodden Rebuttal Rep. at 6 (Jan. 26, 2022).

the most important of the political subdivisions to keep intact, *see* N.T. at 250–51,

and this Court adopted the *Mellow* Special Master's report recognizing that "serious

election administration problem[s]" can arise from splitting VTDs. *Mellow*, 607

A.2d at 211; *see also id.* at 218 (Special Master's Report).

## B.    The Carter Plan complies with other historical redistricting factors.

In addition to the traditional redistricting criteria outlined above, this Court

has identified several historical factors relevant for evaluating a redistricting plan,

including partisan fairness, preserving prior districts, protection of minority voting

rights, respect for communities of interest, and incumbency protection. *LWV I*, 178

A.3d at 817; *Mellow*, 607 A.2d at 208. The Carter Plan performs better than the other

Submitted Plans on partisan fairness, is undisputedly superior on maintaining

existing districts, and is superior or comparable on the remaining measures.

### 1.    The Carter Plan best reflects partisan fairness, in compliance with the Free and Fair Elections Clause.

The Carter Plan best reflects the partisan preferences of Pennsylvania voters.

Although partisan fairness has long been a factor in Pennsylvania's redistricting, *see*

*Mellow*, 607 A.2d at 210, this Court underscored in 2018 that the "overarching

objective" of the Pennsylvania Constitution's Free and Equal Elections Clause in

any redistricting case "is to prevent dilution of an individual's vote by mandating

that the power of his or her vote in the selection of representatives be equalized to

the greatest degree possible with all other Pennsylvania citizens." *LWV I*, 178 A.3d

18

A1687

at 817. Accordingly, in considering compliance with neutral redistricting criteria, this Court has emphasized that the criteria are not just goals in and of themselves, but are also a means of assessing whether a plan will treat Pennsylvania voters of both parties equally. And to further evaluate whether a plan meets that constitutional requirement, this Court has considered partisan fairness metrics like the "efficiency gap" and the "mean-median gap." *Id.* at 774, 817.[8]

Moreover, in conducting its analysis four years ago, this Court observed that advancements in map-drawing technology and analytical software could "potentially allow mapmakers, in the future, to engineer congressional districting maps, which although minimally comporting with these neutral 'floor' criteria, nevertheless operate to unfairly dilute the power of a particular group's vote for a congressional representative." *Id.* at 817. Those advances have now arrived, so an evaluation of minimal compliance with the "floor" is insufficient to guard against vote dilution. Rather, ensuring equal representation requires further analysis using partisan fairness metrics. As evidenced by the fact that some of the Submitted Plans

---

[8] An "efficiency gap" is "a formula that measures the number of 'wasted' votes for one party against the number of 'wasted' votes for another party," where "[t]he larger the number, the greater the partisan bias." *LWV I*, 178 A.3d at 777. The "mean-median gap" similarly measures partisan bias by calculating the difference between the average and median vote share per party in each district, where a difference between zero to four percent is considered "normal," but greater gaps demonstrate an "extreme partisan skew of voters" that "is not an outcome that naturally emerges from Pennsylvania's voter geography." *Id.* at 776.

19

that satisfy the "floor" on traditional redistricting criteria nevertheless unfairly dilute votes, partisan fairness metrics should be given even more weight in this proceeding—not less, as the Special Master recommends.

### a.    The Carter Plan exhibits exceptional partisan fairness, unlike many of the other Submitted Plans.

The Carter Plan performs exceptionally—and far better than most other plans, especially Republican-drawn plans—on partisan fairness metrics. While partisan data was not considered in the drawing of the Carter Plan, Dr. Rodden analyzed the partisanship of his and the other Submitted Plans after they were drawn. Rodden Initial Rep. at 23 (Jan. 24, 2022); N.T. at 118. His analysis—and the analysis of other experts for competing parties in this case—shows that, on numerous metrics, the Carter Plan is exceedingly fair.

The Carter Plan is tied for best among all Submitted Plans on the "direct majority responsiveness" metric, which measures the number of times that the political party whose candidate won the statewide vote also carried most of the plans' congressional districts. Under that metric, the Carter Plan tied for the fewest anti-majoritarian outcomes, and those outcomes favored different parties—another indicator of partisan fairness. *See* DeFord Rebuttal Rep. at ¶¶ 30, 31 tbl. 9 (Jan. 26, 2022); N.T. at 136–38.

On the efficiency gap metric previously relied on by this Court, the Carter Plan achieves the score closest to zero, the best among all Submitted Plans and a

strong indication that the Carter Plan treats voters from both parties equally. *See*

DeFord Rebuttal Rep. at 18 fig. 4 (Jan. 26, 2022); N.T. at 402 (Dr. Duchin explaining

that the Carter Plan "has [an] especially excellent efficiency gap"; "the best one").

The Carter Plan also ties for best mean-median difference among all plans. *See*

Gressman January 29, 2022 Post-Trial Submission, Ex. 1 at 2 (showing mean-

median difference analysis for each plan).

The Special Master's focus on whether particular plans, based on their scores,

"favor Democrats" or "favor Republicans," *see* Rep. at 168–75, is misguided

because these metrics are meant to show degrees of partisan skew based on the

deviation from zero, regardless of which direction (and thus party) the plan favors.

*See* N.T. at 260 (Dr. DeFord agreeing that "closest to zero [] is an indication of

treating voters from each party equally"); N.T. at 371 (Dr. Duchin explaining that

"closest to zero . . . is where you want to be" on all the partisan fairness metrics).[9]

---

[9] Regardless, all of the scores reported by Dr. Duchin and Dr. DeFord show that any slight partisan skew inherent in the Carter Plan favors Republicans. The fact that one expert, Dr. Barber, reported an efficiency gap for the Carter Plan that "favor[s] Democrats" does not negate the other reported efficiency gap figures, which "favor[] Republicans." Moreover, multiple courts have concluded that Dr. Barber's testimony should be given little weight or no credit. N.T. at 563–64. For example, in a 2019 North Carolina case, *Common Cause v. Lewis*, the court identified several shortcomings in Dr. Barber's analysis and, in light of those findings, gave little weight to his testimony. N.T. at 564–65. Dr. Barber's methodology is also unsound because of the techniques that he has relied on. *See* N.T. at 366–67 (explained by Dr. Duchin). For example, Dr. Barber is not qualified to render opinions about the use of simulated districting plans through algorithms. Dr. Barber has limited

21

Consistent with its performance on these fairness measures, and based on recent election data, the Carter Plan creates eight districts where Democrats are expected to win, one of which (District 8) is potentially quite competitive; eight districts where Republicans are quite likely to win, two of which are at least potentially competitive (1 and 10); and one district (District 7) that is a toss-up with a very slight Democratic lean. Rodden Initial Rep. at 25 (Jan. 24, 2022). Overall, the anticipated number of Democratic seats in the Carter Plan is nine, consistent with the partisan breakdown in Pennsylvania. Rodden Rebuttal Rep. at 9–10 (Jan. 26, 2022). Consistent with its least-change approach, the Carter Plan retains ten metropolitan districts that, under the 2018 Remedial Plan, saw an average Democratic vote share above 50 percent. Rodden Initial Rep. at 23 (Jan. 24, 2022). However, the Republican incumbent in District 1, Brian Fitzpatrick, has typically outperformed his party by over seven percentage points, resulting in a likely Republican district instead of an apparently reliably-Democratic district.

---

experience using an algorithm to generate simulated plans prior to January 2022, and he has never published in the areas of redistricting, partisan influence in the redistricting process, or simulated redistricting analyses. *See* N.T. at 561–63. Additionally, Dr. Barber's execution of his methodology of simulated redistricting is suspect because there were "clear errors of calculation" that call into question the accuracy of his analyses, including, for instance, partisan fairness. N.T. at 368. In sum, Dr. Barber is not credible, his analysis is methodologically unsound, and his conclusions are unreliable. The Court thus should not credit Dr. Barber's testimony and conclusions.

22

Accordingly, the *true* anticipated number of Democratic seats in the Carter Plan is

nine. Rodden Rebuttal Rep. at 9–10 (Jan. 26, 2022).

While a couple of the other Submitted Plans are comparably fair to the Carter

Plan, *see* Rodden Rebuttal Rep. at 9 (Jan. 26, 2022), others dilute Pennsylvanians'

votes by providing undue structural advantages to one political party at the expense

of the other. N.T. at 135-36. For instance, the HB 2146 Plan, recommended by the

Special Master, and Voters of PA Plan, each produce a majority of Republican-

leaning districts despite Democrats' overall statewide majorities. Rodden Rebuttal

Rep. at 10 (Jan. 26, 2022); N.T. at 131. Both Reschenthaler Plans similarly produce

eight comfortable Republican seats and an unusually low number of comfortable

Democratic seats. Rodden Rebuttal Rep. at 10 (Jan. 26, 2022); N.T. at 130-31. All

four of these plans unusually skew the distribution of Democratic vote share across

districts, suggesting unfair bias and vote dilution.

The HB 2146 Plan and the Reschenthaler Plans are the most biased plans and

thus do the most to dilute Pennsylvanians' votes. The Reschenthaler Plans have the

highest efficiency gap of all the plans, demonstrating that the plans clearly favor

Republicans. DeFord Rebuttal Rep. at 18 (Jan. 26, 2022); N.T. at 135-36. The

Reschenthaler Plans, along with the HB 2146 Plan, performed particularly poorly on

a mean-median analysis of partisan fairness because they consistently produced

outcomes favoring Republicans. N.T. at 135-36. Even the expert called to testify by

23

A1692

the proponents of the HB 2146 Plan admitted that under his analysis of mean-median

scores, HB 2146 and the two Reschenthaler Plans were the most biased of all the

Submitted Plans, and all three were particularly biased in favor of the Republican

Party. N.T. at 575-78.[10] Most notably, in terms of partisan fairness metrics, the HB

2146 Plan performs much like the 2011 congressional plan that was struck down by

this Court as an unconstitutional partisan gerrymander. *See* N.T. at 364–65.

As for other Submitted Plans, the Senate Democratic Caucus Plan Number 1

produces fewer comfortable Democratic seats than almost every other plan. Rodden

Rebuttal Rep. at 9–10 (Jan. 26, 2022). Of the remaining Submitted Plans, some

produce a greater number of comfortable Democratic seats, and others are unusual

in that they fail to produce many districts that are competitive. *Id.*

> **b.** **The Special Master's partisan fairness analysis was flawed and contrary to this Court's precedent.**

Rather than choose among the Submitted Plans that exhibited the most

partisan fairness based on objective metrics largely agreed upon by the testifying

experts, the Special Master instead gave the most weight to only those plans that

exhibited the *least* partisan fairness—*i.e.*, those that were the most biased in favor

of Republicans. The Special Master's decision to do so was premised on the

---

[10] For the reasons set forth above, *supra* note 8, Dr. Barber's testimony should be given little weight, if any. But if any of his testimony should be credited, it should be his admissions (substantiated by other experts) about the high degree of partisan bias of HB 2146 and the Reschenthaler Plans.

24

A1693

meritless theory that, in light of Pennsylvania's political geography naturally favoring Republicans, a fair map which treats the two political parties equally—and thus does not dilute votes—must have impermissibly prioritized partisanship. This analysis is wrong for a host of reasons.

First, as explained above, the Free and Equal Elections Clause of the Pennsylvania Constitution prohibits "the dilution of an individual's vote" and mandates "that the power of [an individual's] vote in the selection of representatives be equalized to the greatest degree possible with all other Pennsylvania citizens." *LWV I*, 178 A.3d at 817. Accordingly, partisan fairness is a constitutional requirement that the neutral redistricting criteria are meant to protect—indeed, this Court struck down the 2011 map as unconstitutional precisely because it unfairly advantaged one political party. In suggesting the opposite, the Special Master relies on a 2013 Pennsylvania Supreme Court decision and federal law, neither of which can supersede this Court's more recent pronouncement in *League of Women Voters*. Rep. at 176–77. Moreover, the superiority of the Carter Plan is not predicated on some simple proportional representation standard, and the *Carter* Petitioners and others do not ask this Court to adopt one. Rather, they urge the Court to use a range of partisan fairness measures to evaluate whether a particular plan treats voters from different political parties equally—just as this Court did in *League of Women Voters*, and as is required under the Pennsylvania Constitution.

25

A1694

Second, the Special Master's emphasis on Pennsylvania's political geography (or "human geography") is misplaced. There is no asterisk in the Free and Equal Elections Clause explaining that a plan must treat voters equally only to the extent that it does not deviate from the *default* political geography of the state. Instead, traditional redistricting criteria itself provide the backstop to ensure that a plan's partisan makeup does not deviate from what the political geography *allows*. The Carter Plan meets all of the neutral, geography-based redistricting criteria described above. As Dr. Rodden, the author of the political geography paper that the Special Master credited in drawing her erroneous conclusions, stated in no uncertain terms, "it is not the case that the human geography in Pennsylvania somehow requires that we draw unfair districts." N.T. at 192.

Relatedly, the Special Master's reliance on a simulations analysis is misplaced in this context. As Dr. Rodden explained in his testimony, a simulations analysis "is a technique that's used to identify gerrymandering and . . . to understand some aspects of political geography." N.T. at 157–58; *see also* N.T. at 275–76 (Dr. DeFord noting that simulations are more applicable in other contexts). As a threshold matter, none of the maps are subject to a partisan gerrymandering challenge, meaning that the analysis is not well-suited to the dispute. Even so, despite the limitations of political geography, fair Pennsylvania congressional maps are not absent from a simulations analysis: in the "Pennsylvania congressional context," "a good share of

26

A1695

[] simulations end up in a range that . . . produces . . . partisan fairness." N.T. at 192; *see also* N.T. at 392 (Dr. Duchin explaining that her ensembles created "tens of thousands of examples that do well on partisan fairness but were made with no partisan data"). Therefore, especially given that partisan fairness is a constitutional goal, there is no legal value in comparing maps to the *average* map in a set of simulations. N.T. at 383, 386–87 (Dr. Duchin explaining that it is a "conceptual mistake" to assume that "typical is necessarily fair"; "Sometimes you want to be an outlier and you want to be an outlier in the direction of better scores and better upholding the principles."). Indeed, even Dr. Barber acknowledged that if two maps are equivalent with respect to the traditional redistricting criteria, it is better to choose one with less bias and more fairness or symmetry than one that is more biased and less fair or symmetrical. N.T. at 582–86. In short, statewide partisan fairness metrics serve as the most relevant means of determining if a map is compliant with the criteria articulated in *League of Women Voters*, so long as the maps that achieve partisan fairness on those metrics also resemble other maps on traditional criteria.

In any event, the Special Master's misguided assumption that plans achieving partisan fairness necessarily result from intentional gerrymanders, *see* Rep. at 176–78, must be dispelled as to the Carter Plan, as it is the *only* plan for which the map-drawer testified regarding his process and intent. And Dr. Rodden explained that he

27

A1696

drew the 17-district map without considering partisan outcomes and certainly without any intent to favor Democrats.

### 2.    The Carter Plan is undisputedly the least-change plan.

There is no dispute that the Carter Plan best preserves the lines and cores of the 2018 Remedial Plan's districts.

Core preservation is a historical consideration in this state's redistricting process. *LWV I*, 178 A.3d at 817 ("We recognize that other factors have historically played a role in the drawing of legislative districts, such as the preservation of prior district lines . . . ."); *see also Mellow*, 607 A.2d at 208. Moreover, courts commonly deploy a least-change strategy when, as here, the existing map is rendered obsolete by population changes. *See LaComb v. Growe*, 541 F. Supp. 154, 151 (D. Minn. 1982) (stating that the "starting point" for new, court-drawn congressional districts is the last configuration of districts); *see also Johnson v. Wis. Elections Comm'n*, 2021 WI 87 ¶ 81 (plurality op.), ¶ 87 (Hagedorn, J., concurring) (Wis. Nov. 30, 2021) (holding that judicially adopted plans should attempt to minimize changes from the previous map); *Hippert v. Ritchie*, 813 N.W. 2d 374, 380 (Minn. 2012) (explaining that the judicial redistricting panel "utilizes a least-change strategy where feasible"). Furthermore, when courts do make any changes that are not strictly necessary, such changes are often made only to achieve fair outcomes. *See Prosser v. Elections Board*, 793 F. Supp. 859, 867 (W.D. Wis. 1992) (per curiam) ("We are comparing

28

A1697

submitted plans with a view to picking the one (or devising our own) *most consistent with judicial neutrality*. Judges should not select a plan that seeks partisan advantage. . . .") (emphasis added).

By taking the least-change approach, the *Carter* Petitioners were able to preserve the core of the 2018 Remedial Plan's districts and create continuity for the overwhelming majority of Pennsylvania residents. *See Karcher*, 462 U.S. at 740 (recognizing that preserving district cores is a traditional principle of redistricting); *Reynolds*, 377 U.S. at 578–79 (same). And as described above, the 2018 Remedial Plan is an especially useful benchmark for any plan evaluated by this Court because it is the product of a careful judicial process and has already been extensively vetted and analyzed according to redistricting criteria. N.T. at 88-89.

Among the Submitted Plans, the Carter Plan makes the least changes to, and is least disruptive of, the 2018 Remedial Plan, which is an additional and reasonable basis to prefer that plan over others. *See* Duchin Initial Rep. at 7 (Jan. 24, 2022); N.T. at 410–11. The Carter Plan retains 86.6 percent of Pennsylvania's population in the same congressional districts to which they were assigned in the 2018 Remedial Plan, well above the plan with the next-highest retention share. Rodden Rebuttal Rep. at 2 (Jan. 26, 2022); N.T. at 407–08 (Dr. Duchin stating that the Carter Plan has a "superlative least change score" and "just laps had [sic] field when it comes to least change"). Although the Special Master expressed concern about how to

29

prioritize the Submitted Plans on a least-change metric, *see* Rep. at 185 (FF7), there

was no dispute among experts that Dr. Rodden's retained population share

calculations are sufficient to show that the Carter Plan's districts retain more of their

former populations than any other Submitted Plan, and is thus closest to the 2018

Remedial Plan. N.T. at 346–47; 407–08.

Notably, as discussed above, the Carter Plan's least-change approach required

no sacrifice of any traditional redistricting criteria outlined by this Court: it meets or

surpasses the 2018 Remedial Plan on population equality, compactness, contiguity,

and political subdivision splits, and it performs as well or better than the Submitted

Plans on all other redistricting criteria.

The Special Master's criticisms of the Carter Plan's approach, *see* Rep. at

183–88, are misguided and unsupported. First, the Special Master erroneously

contends that this Court rejected the least-change approach in *Holt*. Instead, this

Court simply explained that its "prior 'approvals' of plans do not establish that those

plans survived not only the challenges actually made, but all possible challenges."

*Holt v. 2011 Legislative Reapportionment Comm'n*, 38 A.3d 711, 735 (Pa. 2012).

Here, the 2018 Remedial Plan was not just "approved," but was drawn by this Court

specifically to meet all relevant criteria. Furthermore, the *Carter* Petitioners do not

contend that the 2018 Remedial Plan should be blindly re-adopted because it was

previously approved, but rather believe that such a map is the most logical and

30

reasonable starting point for drawing a new plan that similarly complies with all other criteria this Court considers.

Second, approving the *Carter* Petitioners' approach would not, as the Special Master contends, *see* Rep. at 188 (FF11–12), inoculate future plans from further challenges. In drawing the Carter Plan, Dr. Rodden did not indiscriminately assume the 2018 Remedial Plan's constitutionality; he made changes when necessary to further some legitimate goal (for example, to account for population shifts, further decrease political subdivision splits where possible, and reunite communities of interest) and evaluated the Carter Plan along the same criteria as every other plan. Still, to the extent the Special Master's concerns hinged on this Court's critique of any "supposed constitutionalization of prior redistricting plans," that concern was for plans drawn through the "inherently political" redistricting process at issue in the state legislative context—not plans previously evaluated and adjudicated fair by the judiciary. *Holt v. 2011 Legislative Reapportionment Comm'n*, 67 A.3d 1211, 1234–36 (Pa. 2013).

Ultimately, the Court should adopt the Carter Plan because it simultaneously meets or surpasses the 2018 Remedial Plan and the Submitted Plans on every one of the traditional redistricting criteria outlined by the Pennsylvania Supreme Court, while also better preserving the core of the 2018 Remedial Plan's districts and

creating important continuity for the overwhelming majority of Pennsylvania residents.

### 3. The Carter Plan performs well on the other historical redistricting criteria.

#### a. The Carter Plan protects communities of interest.

In *LWV I*, this Court interpreted the state's constitution to provide "great[] emphasis on creating representational districts that . . . maintain the geographical and social cohesion of the communities in which people live." 178 A.3d. at 814–15. The 2018 Remedial Plan was very careful to avoid splitting communities. By generally retaining the boundaries of the 2018 Remedial Plan and changing district lines only where necessary to reflect variable population changes, the Carter Plan specifically sought to preserve communities determined to be important by this Court and its map-drawer. For instance, the Carter Plan retained the arrangement of districts in the Philadelphia area and its surrounding counties. Rodden Initial Rep. at 12–13 (Jan. 24, 2022). It also respects communities of interest by, among other things, keeping Pittsburgh within one district, keeping the city of Harrisburg whole, and attaching the surplus population of Philadelphia to Delaware County. *See LWV*

*I*, 178 A.3d at 750; *see also* Rodden Initial Rep. at 8 (Jan. 24, 2022); Naughton

Response Rep. at 8–9 (Jan. 26, 2022); N.T. at 101–04.[11]

The Carter Plan was also able to reunify certain communities of interest that

were separated in the 2018 Remedial Plan. For instance, because District 7 required

additional population, Carbon County was added to unify the Allentown-Bethlehem-

Easton metropolitan statistical area consisting of Northampton, Lehigh, and Carbon

Counties. Rodden Initial Rep. at 14 (Jan. 24, 2022). Likewise, the new District 15,

which had to change significantly due to population changes and the loss of what is

---

[11] Dr. Naughton is not qualified to render opinions about redistricting plans. He is not a computer scientist or mathematician. N.T. at 688–89. Instead, Dr. Naughton's claim of expertise is rooted in his "15 years working in Pennsylvania campaign politics" and his work for various Republican candidates. N.T. at 687–88. Dr. Naughton has not appeared as an expert witness in redistricting litigation before, has no particular experience in redistricting, and has never tried to draw a redistricting plan for Pennsylvania. N.T. at 777–78. Dr. Naughton is also unable to offer any objective insight into the critical topics of redistricting because his career has largely been devoted to helping Republican political candidates, and he was retained by Republican politicians in this litigation to offer an opinion about their proposed map. N.T. at 769–70. Moreover, he purported to know the preferences of voters in numerous locations around the Commonwealth, yet admitted that he had done no relevant polling of Pennsylvanians and, in any event, has not worked on a campaign in the state since 2015 (other than one minor engagement for a Superior Court candidate). N.T. at 777. Dr. Naughton is not credible, his analyses are methodologically unsound, and his conclusions are unreliable. For these reasons, Dr. Naughton's testimony should be given little weight, if any. To the extent the Court credits his testimony about communities of interest, however, it is additional evidence supporting the Carter Plan's respect for communities of interest: Every single map-drawing choice that Dr. Naughton advocated for and the Special Master credited as evidence of maintaining communities of interest is reflected in the Carter Plan. *See generally* Rodden Initial Rep. at 12–20 (Jan. 24, 2022).

33

A1702

District 12 under the 2018 Remedial Plan, now avoids a split of Centre County that had previously separated State College from some of its suburbs. *Id.* at 18.

The Special Master's findings regarding the Carter Plan's treatment of communities of interest defy the record. In particular, contrary to the finding that Dr. Rodden "did not explicitly examine or appear to have considered the specific considerations that need to be taken into account when establishing that splits maintain the surrounding communities of interest," Rep. at 156 (FF12), Dr. Rodden deliberately constructed the Carter Plan to ensure the maintenance of communities of interest—both those that were protected by the Court in 2018 and those that were not. And, as discussed above, to the extent the Carter Plan had to alter the boundaries of the 2018 Remedial Plan to account for population changes and the Commonwealth's loss of a congressional seat, it did so with a focus on maintaining natural and political subdivision boundaries and keeping communities whole.

### b.      The Carter Plan protects minority voting rights.

The Carter Plan maintains the protection of minority voting rights reflected in the 2018 Remedial Plan. Federal law requires that districts be drawn to protect the equal opportunity of racial, ethnic, and language minorities to participate in the political process and elect candidates of their choice, whether alone or in alliance with others. Voting Rights Act of 1965, 52 U.S.C. § 10301(b) (2018). And districts must not have the purpose or effect of denying or abridging the voting rights of any

34

United States citizen on account of race, ethnicity, or membership in a language minority group. U.S. Const. Amend. XIV, XV; 52 U.S.C. § 10301(a).

The Carter Plan complies with these criteria because Dr. Rodden did not consider racial data in drawing district lines. Rodden Initial Rep. at 23 (Jan. 24, 2022); N.T. at 117. Notably, the Carter Plan stands alone among the Submitted Plans in this regard—because Dr. Rodden was the only map-drawer to testify, no other plan proponent can point to any direct evidence that its plan did not consider racial data. *See, e.g.*, N.T. at 288. Moreover, because the Carter Plan closely follows the boundaries of the 2018 Remedial Plan with regard to those areas of the state with sizeable minority populations, it has preserved the minority opportunity districts that the Pennsylvania Supreme Court approved in 2018. *See* DeFord Rebuttal Rep. at 20 tbl. 14 (Jan. 26, 2022) (2018 Remedial Plan and Carter Plan both have two majority-minority districts); *see also* N.T. at 190–91 (Dr. Rodden testifying that his analysis of racial data as it relates to the Carter Plan consisted of confirming that the Plan reflected hardly any changes in the minority communities from the 2018 Remedial Plan, which is compliant with the Voting Rights Act).

### c.    The Carter Plan protects incumbents.

The Carter Plan adequately protects incumbents. This Court in *LWV I* recognized that the "protection of incumbents" has "historically played a role in the

35

A1704

drawing of legislative districts." 178 A.3d at 817; *see also Mellow*, 607 A.2d at 207 (avoiding contests between incumbents is a legitimate objective in districting).

Because the Carter Plan makes minor changes to most districts, incumbents have not been inadvertently removed from any existing districts. The single circumstance in which the Carter Plan places two incumbents in the same district was unavoidable. Rep. Keller currently represents District 12, which will no longer exist because of population loss. Under the Carter Plan, he now is located in District 15, along with incumbent Rep. Thompson, another rural representative. This decision, though, had no impact on the Carter Plan's satisfaction of traditional redistricting criteria. Rodden Initial Rep. at 23 (Jan. 24, 2022).

Though the Special Master recognized that the loss of one district would require the pairing of at least one set of incumbents in one district, Rep. at 178 (FF1), she errs in claiming that the "significance" of an incumbent pairing is contingent upon the party affiliations of the candidates that have been paired together. Rather, if the premise is that districts should be drawn to avoid contests between incumbents, *see Mellow*, 607 A.2d at 207, then any plan that pairs two incumbents together should be given the same weight—the party of the individual incumbents that are paired is inapposite to the inquiry. To the extent partisan fairness is a concern, that is best evaluated by the metrics discussed above, and not merely by counting incumbents.

**C.       No legislative deference is owed to a plan that is not duly enacted.**

No deference should be given to any particular plan proposed in this litigation, especially not to the HB 2146 Plan. Instead, all Submitted Plans must be evaluated along the same criteria and "must be considered on the same footing." *Mellow*, 607 A.2d at 215 (Special Master's Report).

The Special Master posited that HB 2146 should receive preference because courts must defer to redistricting plans that reflect state policy. *See* Rep. at 213–17 (citing *Upham v. Seamon*, 456 U.S. 37 (1982) and *Perry v. Perez*, 565 U.S. 388 (2012)). This is incorrect as a matter of law and reasoning. The Special Master misses a critical distinction between the maps at issue in *Upham* and *Perry* and HB 2146—namely, whether the maps were duly enacted under state constitutional requirements. Here, as the Special Master has recognized, Governor Wolf's veto of HB 2146 means that the "bill never obtained the official status of a duly enacted statute." Rep. at 213 ¶ 91. But the Special Master appears to discount the Governor's veto by citing the supposed lack of cognizable legal objections to the constitutionality of HB 2146. *Id.* However, it is not for the Special Master, or any court for that matter, to discount the weight given to a Governor's veto.

HB 2146 is, at most, simply another proposal that this Court should consider with all other Submitted Plans before it. *See Wis. Elections Comm'n*, 2021 WI at ¶ 86, n.15 (Nov. 30, 2021) (Hagedorn, J., concurring) (describing Legislature's

37

submission of redistricting bill that was vetoed by governor as "mere proposals deserving no special weight"). After all, under the Pennsylvania Constitution, the lawmaking process of the Commonwealth belongs to *both* the General Assembly and the Governor, who has veto power over proposed laws. *See* Pa. Const. art. IV, § 15. Where a state constitution requires the participation of both the legislative and executive branches in the lawmaking process, a redistricting plan that the Governor has vetoed is not enforceable as a matter of law. *See Smiley v. Holm*, 285 U.S. 355, 373 (1932); *see also Ariz. State Legis. v. Ariz. Indep. Redistricting Comm'n*, 576 U.S. 787, 807 (2015).

A legislative reapportionment plan that has been vetoed by the Governor represents merely the legislature's "proffered" plan, and, where the Governor has a contrary recommendation, does not reflect "the State's policy." *Sixty-Seventh Minn. State S. v. Beens*, 406 U.S. 187, 197 (1972); *see also Carstens v. Lamm*, 543 F. Supp. 68, 79 (D. Colo. 1982) (explaining that a vetoed legislative plan "cannot represent current state policy any more than the Governor's proposal"). As a result, where, as here, the political branches have failed to enact redistricting plans, one branch's preferred plan cannot represent the policies and preference of the state any more than any other law that has failed to meet the constitutional requirements for legislative enactment. Thus, none of the Submitted Plans is due particular deference as a statement of state policy or the will of the people. *See, e.g., Smith v. Clark*, 189 F.

38

Supp. 2d 529, 533–34 (S.D. Miss. 2002) (holding that where the state "failed to enact a congressional redistricting plan . . . there is no expression, certainly no clear expression, of state policy on congressional redistricting to which we must defer"); *Carstens*, 543 F. Supp. at 79 (affording no deference because vetoed redistricting plan was only the "proffered current policy rather than clear expressions of state policy") (internal citations omitted); *O'Sullivan v. Brier*, 540 F. Supp. 1200, 1202 (D. Kan. 1982) ("[W]e are not required to defer to any plan that has not survived the full legislative process to become law."); *Essex*, 874 F. Supp. 2d at 1084 (D. Kan. 2012) ("Regardless which option our constitutional analysis prompts us to choose, we owe no deference to any proposed plan, as none has successfully navigated the legislative process to the point of enactment.").

For these reasons, in impasse litigation, vetoed redistricting plans should not receive deference. *See, e.g.*, *Wis. State AFL-CIO v. Elections Bd.*, 543 F. Supp. 630, 632 (E.D. Wis. 1982) (three-judge panel) (court explaining in impasse litigation that "[t]he vetoed plan has been submitted to us for our consideration and, after reviewing it, we conclude that it is one of the worst efforts before us and for that reason we decline to adopt it. The plan has, in our opinion, no redeeming value."); *Ritchie*, 813.N.W.2d at 379 n.6 (Minn. 2012) (court in impasse litigation refusing to adopt or show deference to the Minnesota Legislature's redistricting plan because it "was never enacted into law"). Recently, for example, Wisconsin's Legislature asked the

39

A1708

Wisconsin Supreme Court to do the same thing the Special Master recommends to this Court—to give their map special deference. But the Wisconsin Supreme Court, recognizing that the Legislature's maps "did not survive the political process," explicitly refused to give the Legislature's plans any special status. *See Wis. Elections Comm'n*, 2021 WI 87 at ¶ 72 n.8; *see also id.* (J. Hagedorn, concurring) at ¶ 86 n.15 (describing the Legislature's submission as "mere proposals deserving no special weight").

The *Carter* Petitioners are not aware of any court that has adopted a legislature's vetoed map in impasse litigation since the 1970 redistricting cycle, and those decades-old cases are not comparable to the circumstances before the Court today. In *Skolnick v. State Electoral Board of Illinois*, the court adopted a legislatively proposed plan only after independently concluding that the plan was superior to other plans across a range of traditional redistricting criteria and highlighting that the plan had received "substantial bipartisan support" in the legislature, 336 F. Supp. 839, 846 (N.D. Ill. 1971), which, of course, is not the case here. In *Donnelly v. Meskill*, the court similarly did not adopt the legislature's map wholesale but instead made changes to the plan which addressed, in large part, the Governor's reason for vetoing the plan. 345 F. Supp. 962 963–65 (D. Conn. 1972) (explaining the Governor's veto because of the legislature's significant and impermissible population deviations, and the court's adjustment of the legislature's

40

plan to ensure it reached virtual population equality). Thus, neither case stands for

the proposition that courts should afford any deference to, let alone adopt, a

legislature's plan in impasse litigation when the plan has not been enacted into law.

Moreover, in prior Pennsylvania impasse litigation, neither this Court nor

special masters appointed to assess the merits of proposed redistricting maps have

given preferential treatment to reapportionment plans put forth by legislators.

Specifically, in 1992, the Pennsylvania Supreme Court appointed a Special Master

from the Pennsylvania Commonwealth Court to recommend a map for the court to

adopt after Pennsylvania's political branches failed to successfully enact a

redistricting plan on their own. *See Mellow*, 607 A.2d at 205–06. In that proceeding,

the Special Master received six different plans submitted by various groups,

including by various lawmakers. *Id.* at 205. Before engaging in a detailed analysis

comparing the maps before him, the Special Master specifically noted in his opinion

to the court that all plans "must be considered on the same footing." *Id.* at 215. Thus,

this Court must consider all Submitted Plans on equal footing, just as it did in

*Mellow*.

Finally, seeking to elevate a plan that failed enactment relies on a perilous

notion of legislative supremacy that is contrary to fundamental constitutional

principles. Presentment to the executive is an essential component of enacting

legislation. *See* Pa. Const., art. IV, § 15 (requiring presentment of bills to the

41

Governor); *Scarnati v. Wolf*, 173 A.3d 1110, 1120 (Pa. 2017) ("No bill may become law without first being submitted to the Governor for approval or disapproval."). Treating a vetoed bill as tantamount to one that was properly enacted under Pennsylvania's state legislative process would improperly elevate the actions of the legislative branch over that of the executive branch, and in effect eliminate the Governor's veto power by creating a judicial end-around. Setting a precedent that vetoed bills deserve judicial deference despite failing enactment will create perverse incentives for the legislature to attempt to enact laws that will receive special treatment in the courts as opposed to seeking compromise with the Governor.

At bottom, what matters is that because HB 2146 was vetoed by the Governor, it was not duly enacted by the Commonwealth, is not reflective of state policy, and is thus not entitled to deference under *Upham* or *Perry*. HB 2146 is, at most, simply another proposal that this Court should consider with all other Submitted Plans before it.

## IV.   CONCLUSION

The Carter Plan is the only one of the Submitted Plans that satisfies all redistricting criteria and undisputedly exceeds all other Submitted Plans on one of those criteria—retention of previous districts. This Court should adopt the Carter Plan as the Pennsylvania congressional redistricting plan.

42

A1711

Dated: February 14, 2022

Respectfully submitted,

Abha Khanna (PHV)
Elias Law Group LLP
1700 Seventh Ave, Suite 2100
Seattle, WA 98101
akhanna@elias.law
T: (206) 656-0177

Lalitha D. Madduri (PHV)
Christina A. Ford (PHV)
Jyoti Jasrasaria (PHV)
Joseph Posimato (PHV)
Raisa Cramer (PHV)
Elias Law Group LLP
10 G St. NE, Suite 600
Washington, D.C. 20002
lmadduri@elias.law
cford@elias.law
jjasrasaria@elias.law
jposimato@elias.law
rcramer@elias.law
T: (202) 968-4490

Matthew Gordon (PHV)
Perkins Coie LLP
1201 Third Avenue Suite 4900
Seattle, WA 98101
MGordon@perkinscoie.com
T: (206) 359-3552

*/s/ Edward D. Rogers*
Edward D. Rogers (PA 69337)
Marcel S. Pratt (PA 307483)
Robert J. Clark (PA 308105)
Michael R. McDonald (PA 326873)
Paul K. Ort (PA 326044)
Ballard Spahr LLP
1735 Market Street, 51st Floor
Philadelphia, PA 19103
RogersE@ballardspahr.com
PrattM@ballardspahr.com
ClarkR@ballardspahr.com
McDonaldM@ballardspahr.com
OrtP@ballardspahr.com
T: (215) 665-8500
F: (215) 864-8999

***Counsel for Carter Petitioners***

A1713

# Exhibit A

## IN THE SUPREME COURT OF PENNSYLVANIA

CAROL ANN CARTER; MONICA PARRILLA; REBECCA POYOUROW; WILLIAM TUNG; ROSEANNE MILAZZO; BURT SIEGEL; SUSAN CASSANELLI; LEE CASSANELLI; LYNN WACHMAN; MICHAEL GUTTMAN; MAYA FONKEU; BRADY HILL; MARY ELLEN BALCHUNIS; TOM DEWALL; STEPHANIE MCNULTY; and JANET TEMIN,

    Petitioners,

  v.

LEIGH M. CHAPMAN, in her official capacity as the Acting Secretary of the Commonwealth of Pennsylvania; JESSICA MATHIS, in her official capacity as Director for the Pennsylvania Bureau of Election Services and Notaries,

    Respondents.

No. 7 MM 2022

---

PHILIP T. GRESSMAN; RON Y. DONAGI; KRISTOPHER R. TAPP; PAMELA GORKIN; DAVID P. MARSH; JAMES L. ROSENBERGER; AMY MYERS; EUGENE BOMAN; GARY GORDON; LIZ MCMAHON; TIMOTHY G. FEEMAN; and GARTH ISAAK,

    Petitioners,

  v.

LEIGH M. CHAPMAN, in her official capacity as the Acting Secretary of the Commonwealth of Pennsylvania; JESSICA MATHIS, in her official capacity as Director for the Pennsylvania Bureau of Election Services and Notaries,

    Respondents.

## DECLARATION OF JONATHAN RODDEN, Ph.D.

A1714

1.  I, Jonathan Rodden, am an adult individual over the age of eighteen (18) and competent to testify as to the matters set forth below.

2.  On January 24, 2022, I produced to the Commonwealth Court a congressional redistricting plan (the "Carter Plan"), which I created as described in my initial expert report.

3.  On February 7, 2022, counsel for the *Carter* Petitioners asked me to revise the Carter Plan solely to further equalize population across districts and achieve no more than a one-person population deviation where possible.

4.  In the previous Carter Plan, I had allowed districts to be either exactly at the target population (4 districts), one person over (4 districts), or one person under (9 districts). In the revised plan, I no longer allow any districts to be one person over. In the revised plan, 12 districts are exactly at the target population and 5 districts are one person below.

5.  To do this, I revisited each location along each border where I had either worked with a specific combination of Vote Tabulation Districts ("VTD") or split a single VTD to equalize population across districts. In most cases, I split the same VTD, but used a slightly different arrangement of census blocks in order to make the requisite one-person change in district population. In one location, due to coarseness in the sizes of blocks that

2

A1715

prevented me from achieving the target population total using the blocks in the VTD I had initially split, I split a *different* adjoining VTD, keeping whole the VTD that had been split in the initial Carter Plan. In other words, I did not split an additional VTD, but rather, split an alternative adjoining VTD.

6. In one location, the intersection of Districts 3 and 5 in South Philadelphia, I had been able to avoid splitting any VTDs in the initial Carter Plan. This was no longer possible in my pursuit to achieve zero population deviation, so I had to split an additional VTD in order to achieve zero population deviation between these two districts.

7. Other than this additional VTD split in South Philadelphia, these changes that I made to minimize population deviation do not affect the plan-wide metrics reported for the Carter Plan in the expert submissions I made on January 24 and 26 or in my Commonwealth Court testimony on January 27. In other words, the only change to the reported metrics is an increase in the number of VTD splits, from 14 to 15.

3

A1716

8.   The following map depicts the Carter Plan, for which a block equivalency file and shape file were submitted to the Commonwealth Court on January 24, 2022.
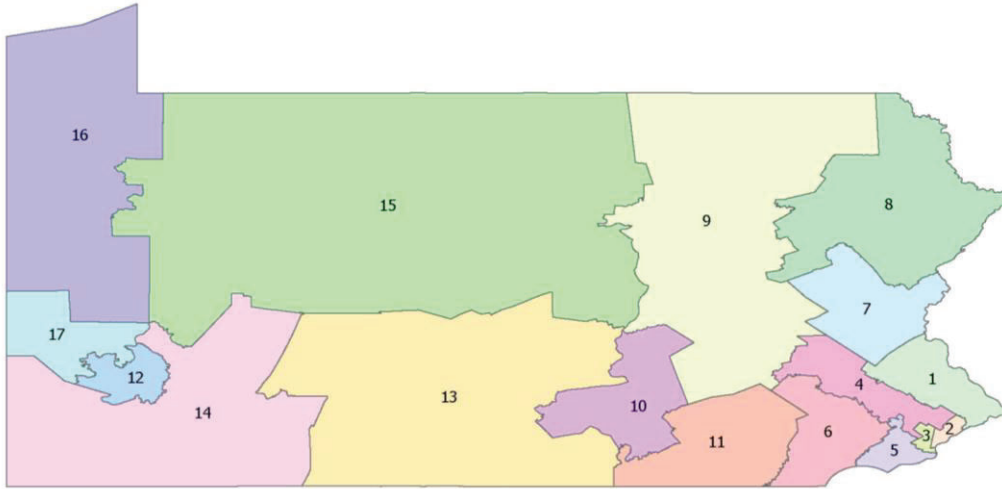


9.   The following map depicts my revised congressional plan (the "Carter Revised Plan"), for which a block equivalency file and shape file are available to download at https://ballardspahr.sharefile.com/d-s028ac6af696b4e0ea9122cc758dd4855.



4

A1717
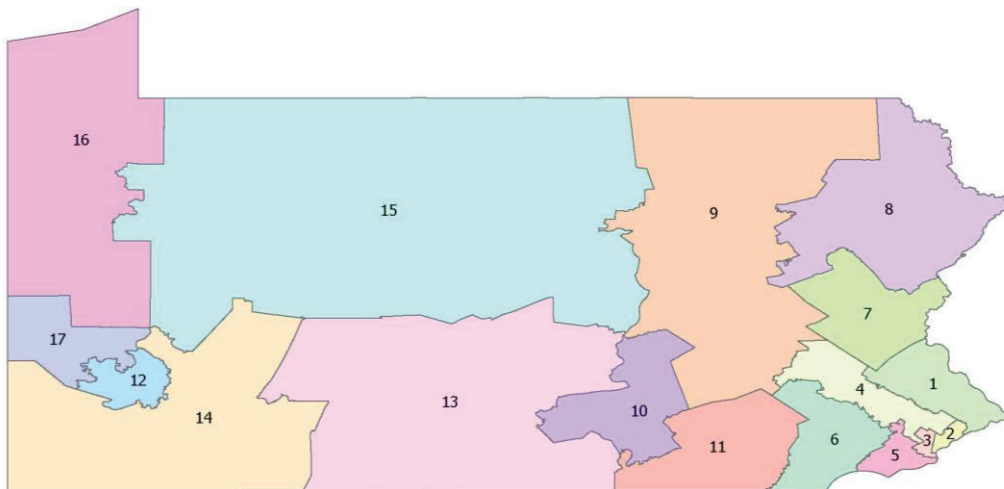
10. I declare under the penalty of perjury that the foregoing is true and correct. The statements contained in this Declaration are made subject to the penalties of 18 Pa. C.S. § 4904, relating to unsworn falsification to authorities.

Executed on February 14, 2022                _____

                                                    Jonathan Rodden

5

A1718

# IN THE SUPREME COURT OF PENNSYLVANIA

| | |
|---|---|
| CAROL ANN CARTER, *et al.*, | |
| *Petitioners*, | **CASES** |
| v. | **CONSOLIDATED** |
| LEIGH CHAPMAN, in her capacity as Acting Secretary of the Commonwealth of Pennsylvania; and JESSICA MATHIS, in her capacity as Director for the Pennsylvania Bureau of Election Services and Notaries, | No. 7 MM 2022 |
| *Respondents*. | |
| PHILIP T. GRESSMAN, *et al.*, | |
| *Petitioners*, | |
| v. | |
| LEIGH CHAPMAN, in her capacity as Acting Secretary of the Commonwealth of Pennsylvania; and JESSICA MATHIS, in her capacity as Director for the Pennsylvania Bureau of Election Services and Notaries, | |
| *Respondents*. | |

## GRESSMAN MATH/SCIENCE PETITIONERS' EXCEPTIONS TO SPECIAL MASTER'S REPORT

On Application for Extraordinary Relief from
Commonwealth Court Docket Nos. 464 MD 2021 and 465 MD 2021

Sam Hirsch (PHV)
Jessica Ring Amunson (PHV)
Lindsay C. Harrison (PHV)
Tassity S. Johnson (PHV)
Claire M. Lally (PHV)
JENNER & BLOCK LLP
1099 New York Ave., NW,
Ste. 900
Washington, DC 20001
(202) 639-6000

April A. Otterberg (PHV)
JENNER & BLOCK LLP
353 N. Clark Street
Chicago, IL 60654
(312) 222-9350

Shannon E. McClure
REED SMITH LLP
Three Logan Square
1717 Arch St., Ste. 3100
Philadelphia, PA 19103
(215) 851-8100

Kim M. Watterson
Devin M. Misour
REED SMITH LLP
225 Fifth Ave., Ste. 1200
Pittsburgh, PA 15222
(412) 288-3131

***Counsel for the Gressman Math/Science Petitioners***

A1719

Petitioners Philip T. Gressman, Ron Y. Donagi, Kristopher R. Tapp, Pamela Gorkin, David P. Marsh, James L. Rosenberger, Amy Myers, Eugene Boman, Gary Gordon, Liz McMahon, Timothy G. Feeman, and Garth Isaak (collectively, the "Gressman Math/Science Petitioners" or the "GMS Petitioners") submit the following exceptions to the February 7, 2022 Report of Commonwealth Court Judge Patricia A. McCullough, acting as a Special Master pursuant to this Court's February 2, 2022 Order.

The GMS Petitioners summarize here the central reasons they take exception to the Special Master's Report.  More detail, with supporting argument and citations to the record below, can be found in the GMS Petitioners' brief, filed concurrently with these Exceptions.

The Special Master's Report contains numbered proposed findings and conclusions, but the numbering resets to 1 from section to section, and in some instances, the Report provides numbered paragraphs that are not clearly identified as findings of fact or conclusions of law.  Accordingly, to aid in the Court's review, the GMS Petitioners provide both the number corresponding to particular proposed findings, conclusions, or paragraphs, as well as the corresponding page number.

## EXCEPTIONS

1.    The Special Master recommended adoption of a plan that is clearly inferior to the GMS (Gressman Math/Science) Plan on all relevant metrics.  [FF107

(Pages 73–74); FF109 (Page 74); FF15–16 (Page 144); FF37–40 (Pages 146–47); FF25 (Page 172); ¶ 12 (Page 191); ¶ 23 (Page 193); Page 205 (erroneous proposed recommendation regarding the Gressman Plan); ¶ 64–65 (Pages 208–09); ¶¶ 67–68 (Pages 209–10); ¶¶ 76–83 (Pages 211–212); ¶¶ 85–88 (Pages 212–13).]

2.      The Special Master erroneously accorded deference to House Bill 2146 (HB2146) even though that bill was vetoed by the Governor and never become law. [¶¶ 61–65 (Pages 208–09); ¶¶ 89–97 (Pages 213–17).]

3.      The Special Master miscalculated political-subdivision splits in numerous and repeated instances, which led to a flawed analysis of the extent to which each proposed plan split the six types of subdivisions enumerated in the Pennsylvania Constitution more times than was "absolutely necessary." PA. CONST. art. II, § 16.  [CL3 (Page 142); FF3–4 (Pages 142–43); FF7–10 (Page 143); FF12 (Page 143); FF15–16 (Page 144); FF18–23 (Pages 144–45); FF25–28 (Page 145); FF30–31 (Pages 145–46); FF33 (Page 146); FF36–43 (Pages 146–47); ¶¶ 23–24 (Page 193); ¶ 67 (Pages 209–10).]

4.      The Special Master erroneously assessed the expert evidence on the neutral redistricting criteria and repeatedly made erroneous "apples to oranges" comparisons of various metrics, leading to incorrect conclusions of law.  [FF81 (Page 70); FF137–139 (Pages 79–80); CL2 (Page 138); FF1–4 (Pages 142–43); CL3 (Page 142); FF42–43 (Page 147); FF2–3 (Page 147); FF9 (Pages 155–56); ¶ 17

2

(Page 192); ¶¶ 23–25 (Pages 193–94); ¶¶ 51–54 (Pages 206–07); ¶ 67 (Pages 209–10).]

5.      The Special Master erroneously assessed the expert evidence on the efficiency-gap, mean-median, and anti-majoritarian-outcomes measures of partisan fairness, such as by misconstruing what the experts actually reported, relying on experts with unsupported methodologies, or providing an incomplete statement of the expert opinions on these metrics.  [FF92 (Page 71); FF97 (Page 72); FF107–10 (Pages 73–74); FF234 (Page 97), FF258 (Page 101); FF4 (Page 167); FF11–23 (Pages 168–71); FF25 (Page 172); FF1 (Page 172); FF18–19 (Pages 175–76); ¶ 12 (Page 191); ¶¶ 40–43 (Page 197); Page 205 (erroneous recommendation regarding the Gressman Plan); ¶¶ 57–60 (Pages 207–08); ¶¶ 65–66 (Page 209); ¶¶ 78–83 (Pages 211–12); ¶ 88 (Page 213).]

6.      The Special Master erroneously credited and gave weight to the testimony of Dr. Keith Naughton, who offered only his personal opinions based on no methodology, data, or research, and who lacks any expertise in redistricting. [FF214 (Page 93); FF221–27 (Pages 94–95); FF230–36 (Pages 96–97); FF10 (Page 150); FF2–5 (Pages 154–55); FF15–28 (Pages 157–61); ¶ 31 (Page 195); ¶¶ 69–75 (Pages 210–11).]  Moreover, the Special Master improperly gave weight to Dr. Naughton's opinion because, in her view, the parties had not rebutted Dr. Naughton's testimony [FF10 (Page 150); FF17 (Page 151); FF2–5 (Pages 154–55);

3

¶¶ 69–73 (Pages 210–11)], but his sole expert report was not filed until the final deadline for all expert *rebuttal* reports, less than 16 hours before the evidentiary hearing commenced; the Special Master refused to allow rebuttal witnesses; and the Special Master unilaterally decided the order of witnesses, with Dr. Naughton testifying next-to-last.

7.      The Special Master erroneously credited and gave weight to the testimony of Dr. Michael Barber, who lacks expertise in redistricting and whose partisan-fairness testimony was methodologically flawed and unsupported. [FF175–83 (Pages 86–88); FF188–213 (Pages 88–93); FF8 (Page 149); CL2 (Page 149); FF1–13 (Pages 164–66); FF11–23 (Pages 168–71); FF1–16 (Pages 172–75); FF20–23 (Page 176); ¶¶ 41–43 (Page 197); ¶¶ 57–60 (Pages 207–08); ¶ 66 (Page 209); ¶¶ 78–83 (Pages 211–12).]

8.      The Special Master misinterpreted the evidence and erroneously concluded, as both a legal and a factual matter, that any fair map must be biased in favor of Republicans as a result of Pennsylvania's political geography.  [FF110 (Page 74); FF1–10 (Pages 162–64); Pages 176–78 (discussion); ¶ 12 (Page 191); ¶¶ 37–42 (Pages 196–97); ¶ 44 (Page 198); ¶¶ 57–60 (Pages 207–08); ¶ 65 (Page 209); ¶¶ 78–83 (Pages 211–12).]

9.      The Special Master erroneously identified as the maps best complying with the Free and Equal Elections Clause the four maps that are, in reality, the most

4

unfair and have the largest pro-Republican bias.  [FF109 (Page 74); FF258 (Page 101); ¶ 12 (Page 191); Page 205 (erroneous recommendation regarding the Gressman Plan); ¶¶ 57–60 (Pages 207–08); ¶ 65 (Page 209); ¶¶ 78–83 (Pages 211–12); ¶ 88 (Page 213).]

10.     The Special Master misread and misapplied both the holding relating to, and the relevance of, the expert evidence in *League of Women Voters v. Commonwealth*, 178 A.3d 737 (Pa. 2018) ("*LWV I*").  [FF92 (Page 71); Page 166 (discussion); FF1 (Page 166); FF24 (Page 171); FF1 (Page 172); FF18–19 (Pages 175–76); FF12 (Page 191); ¶¶ 57–59 (Pages 207–08); ¶ 65 (Page 209); ¶ 88 (Page 213).]

11.     The Special Master misapplied *LWV I*, 178 A.3d at 817, in failing to adequately and correctly evaluate plans for partisan fairness, in part by ignoring the Supreme Court's caution that "advances in map drawing technology and analytical software can potentially allow mapmakers, in the future, to engineer congressional districting maps, which, although minimally comporting with these neutral 'floor' criteria nevertheless operate to unfairly dilute the power of a particular group's vote for a congressional representative." [FF104 (Page 73); FF74 (Page 103); FF9 (Pages 155–56); Pages 176–78 (discussion); ¶ 12 (Page 191); ¶¶ 43–44 (Pages 197–98); ¶ 88 (Page 213).]

5

12.    The Special Master erroneously elevated preservation of communities of interest above the constitutional redistricting criteria and failed to account for the extent to which preservation of political subdivisions preserves communities of interest.  [FF103 (Page 73); FF111 (Page 74); Pages 152–54 (discussion of law on communities of interest); FF1–28 (Pages 154–61); FF10 (Page 156); Page 205 (erroneous recommendation regarding the Gressman Plan).]

13.    The Special Master erroneously cited or relied on expert evidence that (a) was hearsay because the experts did not testify under oath and (b) should not receive any weight because it was never subjected to cross-examination.  [FF260–339 (Pages 101–14); Pages 114–17 (recommended findings on evidentiary objections).]

14.    The Special Master erroneously rejected the GMS Plan based on an incorrect finding, not supported by any evidence, that the GMS Plan was designed to optimize on partisan fairness.  [FF2 (Page 178); ¶ 47 (Page 198); Page 205 (erroneous recommendation regarding the Gressman Plan).]

15.    The Special Master erroneously found that the GMS Plan did not adequately account for preservation of communities of interest.  [FF103 (Page 73); FF111 (Page 74); FF8 (Page 155); FF10 (Page 156); ¶ 47 (Page 198); Page 205 (erroneous recommendation regarding the Gressman Plan).]

6

A1725

16.     The Special Master erroneously found, contrary to record evidence, that the GMS Plan had a partisan bias in favor of Democratic voters.  [¶¶ 41–42 (Page 197); ¶ 47 (Page 198); Page 205 (recommendation regarding the Gressman Plan).]

## CONCLUSION

For the foregoing reasons, as well as those set forth in the brief filed concurrently with these Exceptions, the GMS Petitioners take exception to the Special Master's Report and respectfully suggest that, rather than adopting the Special Master's recommendation, the Court should adopt the GMS Plan for the people of the Commonwealth.

7

A1726

Dated: February 14, 2022

Respectfully submitted,

By: /s/ Kim M. Watterson
Kim M. Watterson (PA 63552)
Devin M. Misour (PA 311892)
REED SMITH LLP
225 Fifth Avenue, Ste. 1200
Pittsburgh, PA 15222
(412) 288–3131
kwatterson@reedsmith.com
dmisour@reedsmith.com

Sam Hirsch (PHV)
Jessica Ring Amunson (PHV)
Lindsay C. Harrison (PHV)
Tassity S. Johnson (PHV)
Claire M. Lally (PHV)
JENNER & BLOCK LLP
1099 New York Avenue, NW, Ste. 900
Washington, DC 20001
(202) 639–6000
SHirsch@jenner.com
JAmunson@jenner.com
LHarrison@jenner.com
TJohnson@jenner.com
CLally@jenner.com

Shannon E. McClure (PA 164502)
REED SMITH LLP
Three Logan Square
1717 Arch Street, Ste. 3100
Philadelphia, PA 19103
(215) 851–8100
smcclure@reedsmith.com

April A. Otterberg (PHV)
JENNER & BLOCK LLP
353 N. Clark Street
Chicago, IL 60654
(312) 222-9350
aotterberg@jenner.com

*Counsel for Gressman Math/Science Petitioners*

8

A1727

## CERTIFICATE OF COMPLIANCE

I certify that this filing complies with the provisions of the *Case Records Public Access Policy of the Unified Judicial System of Pennsylvania* that require filing confidential information and documents differently than non–confidential information and documents.

|  |  |
|---|---|
| Submitted by: | Kim M. Watterson |
| Signature: | /s/ Kim M. Watterson |
| Name: | Kim M. Watterson |
| Attorney No. | PA 63552 |

## **PROOF OF SERVICE**

On February 14, 2022, I caused a copy of the foregoing to be served on all

counsel of record via the electronic filing system, PACFile:

<div align="right">

/s/ Kim M. Watterson
Kim M. Watterson (PA 63552)
REED SMITH LLP
225 Fifth Avenue, Ste. 1200
Pittsburgh, PA 15222
(412) 288–3131
kwatterson@reedsmith.com

</div>

<div align="center">

2

A1729

</div>

# IN THE SUPREME COURT OF PENNSYLVANIA

| | |
|---|---|
| CAROL ANN CARTER, *et al.*, | : |
| *Petitioners*, | : **CASES** |
| v. | : **CONSOLIDATED** |
| LEIGH CHAPMAN, in her capacity as Acting Secretary of the Commonwealth of Pennsylvania; and JESSICA MATHIS, in her capacity as Director for the Pennsylvania Bureau of Election Services and Notaries, | : No. 7 MM 2022 |
| *Respondents*. | : |
| PHILIP T. GRESSMAN, *et al.*, | : |
| *Petitioners*, | : |
| v. | : |
| LEIGH CHAPMAN, in her capacity as Acting Secretary of the Commonwealth of Pennsylvania; and JESSICA MATHIS, in her capacity as Director for the Pennsylvania Bureau of Election Services and Notaries, | : |
| *Respondents*. | : |

## GRESSMAN MATH/SCIENCE PETITIONERS' BRIEF IN SUPPORT OF EXCEPTIONS TO SPECIAL MASTER'S REPORT

On Application for Extraordinary Relief from
Commonwealth Court Docket Nos. 464 MD 2021 and 465 MD 2021

Sam Hirsch (PHV)
Jessica Ring Amunson (PHV)
Lindsay C. Harrison (PHV)
Tassity S. Johnson (PHV)
Claire M. Lally (PHV)
JENNER & BLOCK LLP
1099 New York Ave., NW,
Ste. 900
Washington, DC 20001
(202) 639-6000

April A. Otterberg (PHV)
JENNER & BLOCK LLP
353 N. Clark Street
Chicago, IL 60654
(312) 222-9350

Shannon E. McClure
REED SMITH LLP
Three Logan Square
1717 Arch St., Ste. 3100
Philadelphia, PA 19103
(215) 851-8100

Kim M. Watterson
Devin M. Misour
REED SMITH LLP
225 Fifth Ave., Ste. 1200
Pittsburgh, PA 15222
(412) 288-3131

***Counsel for the Gressman Math/Science Petitioners***

A1730

## TABLE OF CONTENTS

ii

iii

## TABLE OF AUTHORITIES

CASES

## CONSTITUTIONAL PROVISIONS AND STATUTES

## OTHER AUTHORITIES

A1735

vi

**TABLE OF ATTACHMENTS**

Attachment A    Table Comparing the Plans Proposed by the Parties, which was attached to the Gressman Math/Science Petitioners' Post-Trial Submission at the Commonwealth Court, filed January 29, 2022

Attachment B    Table Comparing the GMS Plan and the Plans Proposed by *Amici*, which was attached to the Gressman Math/Science Petitioners' Post-Trial Submission at the Commonwealth Court, filed January 29, 2022

## TABLE OF CITED RECORD MATERIALS FILED WITH
## THE SPECIAL MASTER

| Citation | Description |
|---|---|
| "Barber Rebuttal" | Rebuttal Report of Professor Michael Barber, attached as Exhibit A to Rebuttal Brief of House Republican Intervenors Kerry Benninghoff, Majority Leader, and Bryan Cutler, Speaker of the Pennsylvania House of Representatives, filed Jan. 26, 2022 |
| "Carter Pet." | Carter Petitioners' Petition for Review Addressed to the Commonwealth Court's Original Jurisdiction, filed Dec. 17, 2021 |
| "Caughey Rebuttal" | Rebuttal Report of Professor Devin Caughey, attached as Exhibit A to Senate Democratic Caucus' Brief in Response to Proposed Redistricting Plans, filed Jan. 26, 2022 |
| "DeFord Opening" | Expert Report of Professor Daryl R. DeFord, attached as Exhibit 1 to Brief in Support of Gressman Math/Science Petitioners' Congressional Plan, filed Jan. 24, 2022 |
| "DeFord Rebuttal" | Rebuttal Report of Professor Daryl R. DeFord, attached as Exhibit 1 to Responsive Brief in Support of Gressman Math/Science Petitioners' Congressional Plan, filed Jan. 26, 2022 |
| "Duchin Opening" | Expert Report of Professor Moon Duchin, attached as Exhibit A to Governor Wolf's Brief in Support of Proposed 17-District Congressional Redistricting Plan, filed Jan. 24, 2022 |

| Citation | Description |
|---|---|
| "Duchin Rebuttal" | Expert Report of Professor Moon Duchin, attached as Exhibit A to Governor Wolf's Responsive Brief in Support of Proposed 17-District Congressional Redistricting Plan, filed Jan. 26, 2022 |
| "GMS Opening Br." | Brief in Support of Gressman Math/Science Petitioners' Congressional Plan, filed Jan. 24, 2022 |
| "GMS Pet." | Gressman Math/Science Petitioners' Petition for Review Addressed to the Commonwealth Court's Original Jurisdiction, filed Dec. 17, 2021 |
| "House Dem. Caucus Br." | Brief of Intervenor Representative Joanna E. McClinton, Leader of the Democratic Caucus of the Pennsylvania House of Representatives, in Support of Proposed Congressional Redistricting Plan, filed Jan. 24, 2022 |
| "House Republican Intervenors' Br." | Opening Brief of House Republican Intervenors Kerry Benninghoff, Majority Leader, and Bryan Cutler, Speaker of the Pennsylvania House of Representatives in Support of Proposed Congressional Redistricting Map, filed Jan. 24, 2022 |
| "Report" | Report of Commonwealth Court Judge Patricia McCullough, acting as a Special Master, filed Feb. 7, 2022 |
| "Rodden Opening" | Expert Report of Professor Jonathan Rodden, attached as Exhibit 1 to Carter Petitioners' Brief in Support of Proposed Congressional Redistricting Plan, filed Jan. 24, 2022 |

x

A1740

| Citation | Description |
|---|---|
| "Rodden Rebuttal" | Expert Report of Professor Jonathan Rodden, attached as Exhibit 1 to Carter Petitioners' Response Brief in Support of Proposed Congressional Redistricting Plan, filed Jan. 26, 2022 |
| "Tr." | Official Transcript of Hearings Dated January 27, 2022 and January 28, 2022 before Judge Patricia A. McCullough |

**INTRODUCTION**

Four years ago, in striking down the most egregious partisan gerrymander in the history of the Commonwealth, this Court expressed confidence in the promise of high-performance computing technology to create maps that "scrupulously adhere to neutral criteria" while also promoting elections that are truly "free and equal," *League of Women Voters v. Commonwealth*, 178 A.3d 737, 816–18 (Pa. 2018) (*LWV I*)—so that every Pennsylvania citizen can exercise an equal right to vote, regardless of party, race, or region.

The Gressman Math/Science, or GMS, Petitioners—12 professors of mathematics, statistics, computer science, geography, and data science from Pennsylvania's leading colleges and universities—have come together to deliver on that promise. The GMS Petitioners and their expert team have distilled the legal redistricting criteria from a long line of this Court's cases culminating in the 2018 *League of Women Voters* decisions, translated the Court's commands into algorithmic instructions, programmed computers to generate literally millions of maps, searched for the map that best adheres to all the Court's criteria simultaneously, and crafted what may be the most balanced congressional redistricting plan Pennsylvania has ever seen.

The GMS Plan divides fewer political subdivisions than other maps before this Court and features districts that are equal in population, contiguous, and highly

A1742

compact.  Furthermore, data from 9,178 precincts in 18 recent statewide general elections confirms that, in the GMS Plan, citizens who voted for Republican candidates and citizens who voted for Democratic candidates are treated with near-perfect evenhandedness.  The GMS Plan does all this while properly accounting for Pennsylvania's increasing diversity, as it includes—for the first time in the Commonwealth's history—***three*** majority-minority congressional districts, one of which is predominantly Latino.

The Special Master ignored all this and selected a map that is inferior on ***every*** relevant metric.  Her report is replete with factual and legal errors, and it operates from a presumption favoring a map that was vetoed by the Governor.  This Court should not repeat these errors.

Unlike other parties in this case, the GMS Petitioners are not here to push a narrow, parochial agenda on behalf of a political party or incumbent officeholder.  Rather, their goal is to provide this Court a public service, to show that districting plans can serve the common good, and to help their fellow Pennsylvanians enjoy fair and effective representation in Congress for the next decade.

In choosing a congressional districting plan, the Court need not take sides between Democratic and Republican leaders, between the Governor and the Legislature, between Senators and Representatives, or between state and federal officeholders.  Instead, it need only identify the map that most scrupulously adheres

to all the Commonwealth's traditional neutral redistricting criteria and the map that gives all Pennsylvania citizens an equal opportunity to translate their votes into representation.  Fortunately, those maps are one and the same:  the GMS Plan.

## STATEMENT OF JURISDICTION

This Court has plenary jurisdiction pursuant to 42 Pa. C.S. §726.

## ORDER IN QUESTION

On February 7, 2022, the Special Master filed a Report containing proposed findings of fact and conclusions of law and recommending that this Court adopt the vetoed Pennsylvania House Bill 2146 ("HB2146") as the Commonwealth's congressional redistricting plan for the next decade.

## SCOPE AND STANDARD OF REVIEW

The Special Master's Report is reviewed *de novo*, *see, e.g.*, *LWV I*, 178 A.3d at 801 n.62; *Erfer v. Commonwealth*, 794 A.2d 325, 329 (Pa. 2002), *abrogated on other grounds by LWV I*, 178 A.3d 737; and its findings "'are not binding on this Court,'" *In re Office of Phila. Dist. Att'y*, 244 A.3d 319, 326 (Pa. 2020).

## QUESTION INVOLVED

What congressional redistricting plan remedies the existing unconstitutional malapportionment of Pennsylvania's congressional districts while best complying with the Free and Equal Elections Clause, Pennsylvania's neutral redistricting criteria, the Voting Rights Act, and all other applicable redistricting requirements?

## STATEMENT OF THE CASE

### A.   The Court Must Adopt a New Congressional Redistricting Plan.

On January 24, 2022, the Republican majority in the General Assembly passed HB2146 without a single vote from any Democratic legislator.[1]   The Governor vetoed it two days later.[2]   As a result, no constitutional districting plan is in place for the 2022 congressional election cycle.   Because elections cannot go forward under the existing malapportioned plan, it is now "the judiciary's role to determine the appropriate redistricting plan."   *LWV I*, 178 A.3d at 821–22.

### B.   The Record Below Provides a Comprehensive Basis for Selecting a New Congressional Redistricting Plan.

Two sets of Pennsylvania voters who reside in malapportioned districts petitioned for relief:  (1) the Carter Petitioners, 16 voters affiliated with and supported by the national Democratic Party; and (2) the GMS Petitioners, 12 voters who are award-winning professors of mathematics and science at Bryn Mawr College,

---

[1] In the House, HB2146 received no Democratic votes, and only two Republicans voted against it. *See* Pennsylvania House of Representatives, *House Roll Calls: House Bill 2146* (Jan. 12, 2022), https://www.legis.state.pa.us/CFDOCS/Legis/RC/Public/rc_view_action2.cfm?sess_yr=2021&sess_ind=0&rc_body=H&rc_nbr=708.   In the Senate, it received no Democratic votes, and no Republicans voted against it. *See* Pennsylvania State Senate, *Senate Roll Calls: House Bill 2146* (Jan. 24, 2022), https://www.legis.state.pa.us/CFDOCS/Legis/RC/Public/rc_view_action2.cfm?sess_yr=2021&sess_ind=0&rc_body=S&rc_nbr=429.

[2]   *See* Office of the Governor, Veto Message (Jan. 26, 2022), https://www.governor.pa.gov/wp-content/uploads/2022/01/20220126-HB-2146-Veto-Message.pdf.

Bucknell University, Lafayette College, Lehigh University, Penn State University, St. Joseph's University, the University of Pennsylvania, and Villanova University.[3]

Ten sets of intervenors petitioned to join, including the following elected officials, whose intervention was granted:

(i)     Tom Wolf, Governor of the Commonwealth of Pennsylvania;

(ii)    Speaker Bryan Cutler and Majority Leader Kerry Benninghoff of the Pennsylvania House, and President Pro Tempore Jake Corman and Majority Leader Kim Ward of the Pennsylvania Senate (together, the "House Republicans");

(iii)   Pennsylvania State Senators Maria Collett, Katie Muth, Sharif Street, and Anthony Williams;

(iv)    Senator Jay Costa and members of the Democratic Caucus of the Pennsylvania Senate (together with Senators Collet, Muth, Street, and Williams, the "Senate Democrats");[4]

(v)     Representative Joanna McClinton, Leader of the Democratic Caucus of the Pennsylvania House ("the House Democrats"); and

---

[3] *See* Carter Pet. ¶9; GMS Pet. ¶¶10–14.

[4] The Collett and Costa intervenors participated as one party.  Jan. 14, 2022 Order ¶2.

(vi)   Congressman Guy Reschenthaler, Swatara Township Commissioner Jeffrey Varner, Tom Marino, Ryan Costello, and Bud Shuster (the "Reschenthaler Intervenors" or the "Congressional Intervenors").

Four Pennsylvania voter groups were denied intervention but participated as *amici*.[5]

Thirteen maps were timely proposed by parties and *amici*, and after two rounds of briefing, the Commonwealth Court held an evidentiary hearing with testimony from six expert witnesses, whose reports were admitted in evidence:[6]

- Dr. Jonathan Rodden, Professor of Political Science at Stanford University, for the Carter Petitioners;

- Dr. Daryl DeFord, Assistant Professor of Data Analytics in the Department of Mathematics and Statistics at Washington State University, for the GMS Petitioners;

- Dr. Moon Duchin, Professor of Mathematics at Tufts University, for the Governor;

- Dr. Michael Barber, Associate Professor of Political Science at Brigham Young University, for the House Republicans;

---

[5] They were: (1) Leslie Osche and other voters, who call themselves "Citizen-Voters"; (2) Voters of the Commonwealth of Pennsylvania, a group of Republican voters; (3) Khalif Ali and other voters, affiliated with Common Cause and other organizations; and (4) voters associated with Draw the Lines PA.  *See generally* Jan. 14, 2022 Order.

[6] Tr. 26:2-11.

6

- Dr. Keith Naughton, co-founder and principal at Silent Majority Strategies, for the Reschenthaler Intervenors; and

- Dr. Devin Caughey, Associate Professor of Political Science at the Massachusetts Institute of Technology, for the Senate Democrats.

In addition, over objection,[7] the Commonwealth Court admitted in evidence four expert reports and witness statements from authors who did not testify and were never subject to cross-examination.[8] The Commonwealth Court also considered three submissions from *amici*, who did not participate in the evidentiary hearing.[9]

On February 2, 2022, this Court accepted jurisdiction over this matter and designated the Commonwealth Court Judge as Special Master. On February 7, the Special Master filed her Report recommending adoption of HB2146.

### C.      The GMS Petitioners Used Computational Redistricting to Achieve Superior Performance on All Criteria Simultaneously.

The parties used different methods to generate their proposed redistricting plans. The GMS Plan was created using "computational redistricting," which draws

---

[7] Tr. 886:20–887:14, 888:23–889:13.

[8] Tr. 1118:25–1119:13. They were: Dr. John Memmi, for the Pennsylvania Senate Republican Caucus; Dr. Thomas Brunell, for the Reschenthaler Intervenors; and Lora Schoenberg and Michael Lamb, both for the Senate Democrats.

[9] They were from Justin Villere, for Draw the Lines PA; Sean Trende, for Voters of the Commonwealth; and Sarah Andre, for the Ali *amici*. Because none of the *amici*'s maps or expert opinions were "subjected to the rigors of evidentiary challenges either for admissibility or accuracy, as tested through cross-examination," *LWV I*, 178 A.3d at 831 (Baer, J., concurring and dissenting), the Court should not select an *amicus* map unless it is clearly superior to all alternatives.

from advances in mathematics, statistics, and computer science to apply high-performance computing, algorithmic techniques, and spatial demography to redistricting.[10]  The premise is simple:  "Given the number of [redistricting] criteria typically present and the spatial nature of how the criteria operate, it is not easy for humans to find optimal redistricting outcomes on their own….  Put simply, good maps are needles in a haystack of bad or at least worse maps.  Enter redistricting algorithms.  They are capable of meticulous exploration of the astronomical number of ways in which a state can be partitioned.  They can identify possible configurations of districts and zero in on the maps that best meet the redistricting criteria.  The algorithms sort through the haystack more efficiently and more systematically so that the needle—the better maps—can be found."[11]  In this way, a "computer program essentially substitutes for a very large body of neutral experts and the viable, neutral maps they draw."[12]

As this Court has recognized, redistricting is a complex process that involves balancing multiple legal requirements.  *See Holt v. 2011 Legislative Reapportionment Comm'n*, 67 A.3d 1211, 1237–41 (Pa. 2013) (*Holt II*); *Holt v. 2011*

---

[10] Tr. 200:24–201:12.

[11] Emily Rong Zhang, *Bolstering Faith with Facts: Supporting Independent Redistricting Commissions with Redistricting Algorithms*, 109 CAL. L. REV. 987, 1011–13 (2021) (internal quotation marks omitted) [hereinafter "Zhang"].

[12] Bruce E. Cain, et al., *A Reasonable Bias Approach to Gerrymandering: Using Automated Plan Generation to Evaluate Redistricting Proposals*, 59 WM. & MARY L. REV. 1521, 1536–37 (2018).

8

*Legislative Reapportionment Comm'n*, 38 A.3d 711, 759–61 (Pa. 2012) (*Holt I*).

Improving compliance with one requirement often creates "downstream consequences" for compliance with others.[13]  For example, achieving population equality necessarily requires splitting some political subdivisions, and keeping certain counties intact could make the map as a whole less compact.[14]  Exploring millions of alternatives by computer sheds light on these tradeoffs.

 As some of Pennsylvania's leading mathematicians and scientists, the GMS Petitioners understand how high-performance computers and cutting-edge algorithmic techniques can thwart gerrymandering, streamline the mapmaking process, and promote fair and effective representation.  They have taken to heart this Court's observation that technology can "aid in the expeditious development of districting maps, the boundaries of which are drawn to scrupulously adhere to neutral criteria." *LWV I*, 178 A.3d at 817–18; *see id.* at 819 n.75.  Through computational redistricting, the GMS Petitioners have put forth a plan that "scrupulously adheres" to neutral criteria so effectively, and in a manner so fair to Pennsylvania voters, that it is the best plan before this Court.

---

[13] Zhang, *supra*, at 1013.

[14] *Id.*

9

## SUMMARY OF ARGUMENT

This Court should reject the Special Master's recommendation and, instead, adopt the GMS Plan.

I.      As shown below, of all plans submitted in these proceedings, the GMS Plan best satisfies, all at once, the full set of neutral redistricting criteria that establish a "floor" for complying with the Free and Equal Elections Clause—population equality, respect for political subdivisions, compactness, and contiguity.

II.      The GMS Plan is superior to all plans—including the demonstrably Republican-favoring HB2146—in complying with the mandate that a redistricting plan provide "all voters … an equal opportunity to translate their votes into representation." *LWV I*, 178 A.3d at 814.  The GMS Plan provides equal electoral opportunities not only for Republican and Democratic voters, but also for minority voters:  It is the *only* plan with three majority-minority districts, and the *only* plan with a predominantly Latino majority-minority district, reflecting the Commonwealth's increasingly diverse citizenry.

III.      The GMS Plan also addresses other factors traditionally considered in redistricting.  It is the only plan that does not "pair" in a single district the homes of two or more incumbents running for reelection; it hews closely to the choices reflected in the 2018 Plan; and it preserves communities of interest.

10

IV.     Evaluating all factors collectively, the GMS Plan is superior to all other plans before the Court.

V.      The Special Master's recommendation is factually and legally flawed. The GMS Plan is superior to the Special Master's recommended plan in every way, as shown in the table below, where green shading highlights metrics on which one plan outperforms the other and yellow indicates a tie:

| Redistricting Principle | Metric | GMS | HB2146 |
|---|---|---|---|
| Population Equality | Maximum Population Deviation | 1 person | 1 person |
| Contiguity | Non-Contiguous Districts | 0 | 0 |
| Compactness | Mean Polsby-Popper (higher is better) | 0.33 | 0.31 |
| | Mean Reock (higher is better) | 0.40 | 0.38 |
| | Mean Convex Hull (higher is better) | 0.80 | 0.78 |
| | Cut Edges (lower is better) | 5,546 | 5,882 |
| Respect for Political Subdivisions | Total Split Political Subdivisions | 49 | 54 |
| | Political Subdivision Pieces Created by Splits (omitting pieces created when boroughs are split along county lines) | 49 | 54 |
| Minority Electoral Opportunity | Minority Opportunity Districts (MODs) | 3 | 2 |
| | MODs with Latino Adult Citizens as Largest Minority Group | 1 | 0 |
| Partisan Fairness | Antimajoritarian Outcomes (DeFord) (fewer is better) | 3 (2 favoring Republicans; 1 favoring Democrats) | 5 (all favoring Republicans) |
| | Average Mean-Median Gap (DeFord) (closer to zero is better) | -0.8% | -2.9% |
| | Average Efficiency Gap (DeFord) (closer to zero is better) | 0.8% | -6.3% |
| Incumbent Pairings | Districts that Pair Incumbents Seeking Reelection | 0 | 1 |

11

## ARGUMENT

**I.      The GMS Plan Satisfies, Simultaneously, All the Neutral Criteria that Serve as the Constitutional "Floor" for a Redistricting Plan.**

In *LWV I*, this Court described four "neutral criteria"—population equality, minimizing the division of political subdivisions, compactness, and contiguity—as the "'floor' of protection for an individual against the dilution of his or her vote in the creation of [congressional] districts."  178 A.3d at 817.  The GMS Plan satisfies ***all*** these criteria, simultaneously.

The GMS Petitioners have prepared two tables (Attachments A and B) that identify each redistricting criterion and associated metrics, with the metrics calculated in the same way for every plan before this Court.[15]  The GMS Petitioners were the only party to present an expert, Dr. DeFord, who analyzed every plan, top to bottom, and provided all data for review and cross-examination.[16]  Rather than wrestle with how to translate the differing methods of measuring performance submitted by the parties and *amici*, the Court can use these tables to make

---

[15] These tables were attached to the GMS Petitioners' January 29 post-trial submission in the Commonwealth Court.  All data is found in Dr. DeFord's Rebuttal Report, except where otherwise stated.

[16] Indeed, Dr. DeFord's analysis was so comprehensive that, rather than challenge his methodology, parties used cross-examination to cherry-pick particular metrics he had calculated that favored their own map.   Tr. 253:23–261:17 (Carter), 263:21–267:1 (Governor),   269:3–270:4   (House   Republicans),   285:6–287:20   (Reschenthaler Intervenors), 318:4–25 (Senate Democrats); *see also* Tr. 319:22–321:21.

12

A1753

comprehensive, data-driven, apples-to-apples comparisons of all 13 plans.  They

show that the GMS Plan outperforms the others in satisfying the neutral criteria.

### A.    The GMS Plan Achieves Absolute Population Equality.

Population equality is the primary consideration, and indeed the entire

impetus, for redistricting.  The command under Article I, Section 2 of the U.S.

Constitution "that Representatives be chosen 'by the People of the several States,'"

*Wesberry v. Sanders*, 376 U.S. 1, 7 (1964), requires "absolute population equality"

in congressional districts, *Karcher v. Daggett*, 462 U.S. 725, 732–33 (1983).

Accordingly, in *League of Women Voters of Pennsylvania v. Commonwealth*, 181

A.3d 1083 (Pa. 2018) (*LWV II*), this Court held that "the constitutional guarantee of

one person, one vote" in congressional redistricting means that "no district has more

than a one-person difference in population from any other district."  *Id.* at 1087.

Perfect population equality is possible, and the GMS Plan achieves it.  No

district has more than a one-person difference in population from any other district;

twelve contain 764,865 persons each, and five contain 764,864 persons each.[17]

The Carter Plan, House Democrats Plan, and Ali *Amici* Plan did not achieve

absolute population equality.[18]  The Carter and House Democrats plans both have a

---

[17] DeFord Opening ¶22 & Table 1; Tr. 203:18–204:3.
[18] DeFord Rebuttal, Table 1 and App'x A, Table 1a.

13

two-person difference from their largest to smallest districts,[19] meaning they could

be subject to a federal one-person-one-vote challenge.   *See, e.g., Vieth v.*

*Pennsylvania*, 195 F. Supp. 2d 672, 675–76, 678 (M.D. Pa. 2002) (three-judge court)

(invalidating a congressional redistricting plan because it had a 19-person maximum

population deviation).    The Ali *Amici* Plan has a much greater population

deviation—8,676 persons[20]—because it used data that reallocated many incarcerated

people to their home addresses.[21]  To ensure the plan it adopts does not face a federal

lawsuit, the Court should choose a plan with a one-person maximum population

deviation.

### B.    The GMS Plan Splits the Fewest Political Subdivisions.

The congressional plan this Court adopts must not split counties, cities,

incorporated towns, boroughs, townships, or wards "[u]nless absolutely necessary."

PA. CONST. art. II, §16; *see LWV I*, 178 A.3d at 816–17.  Of course, "some divisions

are inevitable" to comply with other legal requirements.  *Holt I*, 38 A.3d at 758.  But

---

[19] *See* Rodden Opening, Table 4; House Dem. Caucus Br. at 9; DeFord Rebuttal, Table 1, and App'x A, Table 1a.

[20] DeFord Rebuttal, App'x A, Table 1a.

[21]  All other parties relied on (1) the 2020 Census data, unadjusted for errors in Pennsylvania's precinct boundaries and populations; or (2) the Legislative Reapportionment Commission's Data Set #1, which corrects these Pennsylvania-specific errors in the 2020 Census Data.  Any plan this Court adopts should be based, as the GMS Plan is, on the LRC's adjusted Data Set #1.  That is consistent with Pennsylvania House Resolution 165 and the Court's use of adjusted Census data in *LWV I*, 181 A.3d at 1087 n.8, and *Mellow v. Mitchell*, 607 A.2d 204, 218–19 (Pa. 1992).  All statistics in this brief and calculated by Dr. DeFord were calculated using Data Set #1.

14

splitting these six political-subdivision types should be avoided unless "absolutely necessary."[22]

The GMS Plan outperforms every other plan in preserving the integrity of political subdivisions.[23]   It splits 15 counties, 1 city, 0 towns, 3 boroughs, 15 townships, and 15 wards.[24]  Of those 15 counties, three (Philadelphia, Allegheny, and Montgomery) must be split because they each have more residents than a single district has, and each is split the minimum number of times dictated by population.[25] The same is true for the GMS Plan's sole split city, Philadelphia, which is divided among three districts, the mathematical minimum.[26]  And each of the GMS Plan's three borough splits occurs "naturally" along a county boundary that already divides the borough.[27]  *LWV I*, 178 A.3d at 762 n.22.  The GMS Plan also minimizes political-subdivision "pieces" created by splits.[28]  The pieces metric (a) calculates the number of political-subdivision pieces above those required if each political subdivision were

---

[22] The Carter Petitioners' expert, Dr. Rodden, also evaluated the extent to which the Carter Plan preserved voting tabulation districts, or VTDs.  *See* Rodden Opening at 22.  But VTDs are not one of the six political subdivisions protected by the Constitution.  Tr. 143:1–9; *see also* PA. CONST. art. II, §16.

[23] *See* DeFord Rebuttal, Table 6, and App'x A, Table 6a.

[24] DeFord Opening ¶29, 38, 41, 42, 48, 52.  The GMS Plan also keeps Chester County fully intact; the 2018 Plan placed the county's discontiguous portion into a second district.  *Id.* ¶34 & n.3.

[25] *Id.* ¶¶29–33.

[26] *Id.* ¶38.

[27] *Id.* ¶¶42–47.

[28] DeFord Rebuttal, Table 7, and App'x A, Table 7a.

15

kept solely in one district and (b) omits splits of boroughs that occur along county lines.[29]   For example, the GMS Plan has 17 municipality "pieces":  2 pieces for Philadelphia (which is split two times) plus one piece for each of the plan's 15 split townships.[30]   This metric allows one to quickly and easily evaluate the extent to which political subdivisions are not just split, but split more times than may be necessary or appropriate.[31]

This table shows how the GMS Plan is superior to HB2146 in minimizing political subdivision splits and pieces,[32] with green shading identifying superior numbers and yellow denoting a tie:

| Metric | GMS Plan | HB2146 |
|---|---|---|
| Split Counties | 15 | 15 |
| Split Municipalities *(including boroughs split on county lines)* | 19 | 21 |
| Split Wards | 15 | 18 |
| **Total Splits** | **49** | **54** |
| County Pieces Created by Splits | 17 | 18 |
| Municipality Pieces Created by Splits | 17 | 18 |
| Ward Pieces Created by Splits | 15 | 18 |
| **Total Pieces Created by Splits** | **49** | **54** |
| Districts Containing Parts of Philadelphia | 3 | 4 |

---

[29] *Id.* ¶23.

[30] *Id.* at Tables 3 & 7.

[31] DeFord Opening ¶27.

[32] DeFord Rebuttal, Tables 4, 6, & 7.

16

The GMS Plan also reflects a prioritization of political-subdivision splits consistent with the plan ordered into effect in *LWV II* ("the 2018 Plan"). Like that plan, the GMS Plan splits only one city (Philadelphia) and keeps Pittsburgh whole.[33] The GMS Plan is one of only two proposed plans that splits Philadelphia into the minimum-population-required districts (three) ***and*** splits no other cities.[34] Furthermore, the GMS Plan follows the 2018 Plan's approach in tolerating a small number of split townships to minimize divisions of other municipalities, including county seats.[35] And the GMS Plan follows the 2018 Plan's approach in minimizing, to the extent possible, the splitting of wards, particularly in Philadelphia. *See LWV II*, 181 A.3d at 1087 n.11. Indeed, the GMS Plan splits the fewest wards of all but one submitted map.[36]

In total, the GMS Plan has only 49 splits across all six types of political subdivisions—***the very best*** across all parties' and *amici*'s maps[37]—and is tied for first in fewest pieces created by splitting the six political-subdivision types:[38]

---

[33] *Id.* at Table 4.

[34] *Id.* at Table 4 and App'x A, Table 4a. The other is the House Democrats' Plan, which is inferior by essentially every other metric. *See* Attachment A.

[35] *See* DeFord Opening ¶48.

[36] DeFord Rebuttal, Table 5 and App'x A, Table 5a. Senate Democrats Plan 2 splits one fewer ward, but splits one more county and five more boroughs along county lines, and it splits Pittsburgh. It is inferior to the GMS Plan by other metrics, too. *See* Attachment A.

[37] Others evaluate splits by ignoring boroughs split along county lines. By that metric, the GMS Plan ties for best (46) with Draw the Lines and Senate Democrats 2. *Id.*

[38] *Id.* at Tables 6 & 7 and App'x A, Tables 6a & 7a; Tr. 212:18–213:12 (DeFord).

17

| Plan | Total Splits | Pieces Created by Splits |
|---|---|---|
| GMS | 49 | 49 |
| Sen. Dems. 2 | 51 | 49 |
| Draw the Lines | 52 | 49 |
| HB2146 | 54 | 54 |
| Citizen-Voters | 54 | 55 |
| Reschenthaler 2 | 57 | 57 |
| Reschenthaler 1 | 58 | 58 |
| Carter | 58 | 59 |
| Sen. Dems. 1 | 59 | 56 |
| House Dems. | 61 | 58 |
| Governor | 63 | 63 |
| Ali | 73 | 71 |
| Voters of PA | 79 | 76 |

Looking to the sum of splits and pieces across all six political-subdivision types accounts for tradeoffs when respecting political subdivisions.[39]  While other parties may tout their performance on one or two subcategories of political subdivisions, no plan outperforms the GMS Plan on **total** splits or **total** pieces created by splits.[40]  Simply put, of all the plans submitted by parties and *amici*, the GMS Plan splits the **fewest** political subdivisions, and **no plan** creates fewer political-subdivision pieces.

C.  **The GMS Plan Achieves Highly Compact Districts.**

A congressional plan must contain districts "composed of compact … territory."  PA. CONST. art. II, §16; *see LWV I*, 178 A.3d at 816–17.  Simultaneously

---

[39] Tr. 211:11–213:7.

[40] DeFord Rebuttal, Tables 6, 7 and App'x A, Tables 6a, 7a.

18

complying with other criteria can introduce "elements of unavoidable noncompactness." *Commw. ex rel. Specter v. Levin*, 293 A.2d 15, 18–19 (Pa. 1972) (internal quotation marks omitted), *abrogated on other grounds by Holt I*, 38 A.3d 711 (Pa. 2012). Nevertheless, in keeping with *LWV II*, the compactness of any plan adopted by the Court should be "superior or comparable" to that of the other submitted plans. 181 A.3d at 1087. The GMS Plan satisfies that standard.

"Compactness" refers to a district's or plan's geographic or geometric regularity.[41] Several measures of compactness exist, *LWV I*, 178 A.3d at 771–72, and it is important to consider more than one because each "represents a different, potentially relevant portion of the full geometric information" and "no single compactness measure can perfectly capture all facets of the regularity of a shape."[42] Consequently, Dr. DeFord calculated the Convex Hull, Reock, Polsby-Popper, and Cut Edges compactness measures for every submitted plan.[43] *Cf. LWV II*, 181 A.3d at 1087 (assessing compactness measures).

The GMS Plan is the **best** among all party-submitted plans in its minimum Convex Hull score, which demonstrates that no single district in the plan is, on its

---

[41] DeFord Opening ¶54.

[42] *Id.* ¶57; *see also* Tr. 94:2–7 (Rodden), 214:10–17 (DeFord), 333:14–334:14 (Duchin).

[43] DeFord Rebuttal, Table 8 and App'x A, Table 8a; *see also* DeFord Opening ¶¶54–61 (explaining each compactness measure).

own, noncompact.[44]   The GMS Plan also is among the best in other measures of compactness:   mean Reock, mean Polsby-Popper, mean Convex Hull, and Cut Edges.[45]

Notably, the GMS Plan achieves these levels of compactness even though two of its districts follow the irregular Pittsburgh border to keep that city intact.  As Dr. DeFord testified, given Pittsburgh's shape, plans that follow the city's border will tend to have lower Polsby-Popper scores, as compared to maps smoothly slicing Pittsburgh in two.[46]   This is an example of a tradeoff in optimizing multiple redistricting criteria simultaneously[47]—one that comports with Pennsylvania law, which calls generally for compact districts, but prioritizes keeping political subdivisions intact "[u]nless absolutely necessary."  PA. CONST. art. II, §16.

### D.     The GMS Plan Contains Only Contiguous Districts.

The congressional plan this Court adopts must contain districts "composed of ... contiguous territory."  PA. CONST. art. II, §16; *see LWV I*, 178 A.3d at 816–17.  A contiguous district is one "in which no part of the district is wholly physically

---

[44] *See* DeFord Rebuttal ¶26.

[45] *Id.* ¶¶25–26 & Table 8; Tr. 214:19–24.

[46] *See* Tr. 215:13–218:7.

[47] *Id.*; *see also id.* at 338:6–18 (Duchin).

20

separate from any other part." *Specter*, 293 A.2d at 17–18 (internal quotation marks and footnote omitted).  The GMS Plan avoids any discontiguity.[48]

## II.   The GMS Plan Performs Better than Any Other Plan in Providing All Voters an Equal Opportunity to Translate Their Votes into Representation.

As explained, the GMS Plan is superior on the Pennsylvania Constitution's full set of neutral "floor" criteria.  But the Court must look beyond the "floor."  In *LWV I*, this Court recognized that "advances in map drawing technology and analytical software can potentially allow mapmakers, in the future, to engineer congressional districting maps, which, although minimally comporting with these neutral 'floor' criteria, nevertheless operate to unfairly dilute the power of a particular group's vote for a congressional representative."  178 A.3d at 817.

With that statement, this Court presciently foresaw HB2146, which would dilute Democratic votes while purporting to comply with the "floor" criteria.  By contrast, the GMS Plan scrupulously ensures that all voters will be treated equally.  The GMS Plan is far superior to HB2146 on objective metrics of partisan fairness that assess whether a plan is giving "all voters … an equal opportunity to translate their votes into representation."  *Id.* at 814.  The GMS Plan does not surpass just HB2146 on this score.  It is either the very best, or effectively tied for the very best,

---

[48] *See* DeFord Rebuttal ¶27.

21

among every one of the plans, whether submitted by parties or *amici*, on virtually *every* measure of partisan fairness in the record.

Beyond ensuring partisan fairness, the GMS Plan also ensures that the Commonwealth's minority voters are given an "equal opportunity to translate their votes into representation." *Id.* Indeed, **only** the GMS Plan has three majority-minority opportunity districts, including one in which Latinos would be the largest group of adult minority citizens.

### A.     The GMS Plan Is Fair to Voters from Both Parties.

Article I, Section 5 of the Pennsylvania Constitution demands that a congressional redistricting plan "prevent dilution of an individual's vote" and equalize the power of each citizen's vote "***to the greatest degree possible***." *Id.* at 817 (emphasis added). Scholars and scientists have several reliable ways to measure whether a redistricting plan will fulfill these aims.[49] Each is a different way of evaluating the extent to which a proposed map comports with majoritarian election principles—the notion that the party whose candidates win a majority of the votes statewide should likewise have a realistic probability of winning a majority of the

---

[49] *See* DeFord Opening §V.E.3; *see also* Tr. 222:7–24. As with the neutral criteria, parties' experts calculated partisan-fairness measures in different ways. The Court can use Dr. DeFord's calculations for all plans, or the PlanScore calculations, to make apples-to-apples assessments among plans. *See* Attachments A & B.

congressional districts.[50]   On these metrics, the GMS Plan achieves the best, or near-best, scores of all the plans.

### 1.    The GMS Plan Achieves a Near-Perfect Mean-Median Score.

In *LWV I*, this Court credited the *mean-median score* as a measure of partisan fairness.  *See* 178 A.3d at 774.  The mean-median score captures how much of a state's vote is needed to capture half the seats in a proposed map.[51]  As Dr. DeFord explained, the mean-median score relates to partisan symmetry:  If one party is expected to turn a 55%-to-45% statewide vote advantage into a 10-to-7 seat advantage, then a symmetric result would require the other party to achieve the same seats advantage with the same statewide vote advantage.  If the mean-median score is close to zero, then about half the districts in the proposed plan are more Democratic than the state as a whole, and about half the districts are more Republican than the state as a whole—an intuitively sensible property for any truly fair map.[52]  But if the mean-median score is further away from zero, the proposed plan is skewed to favor one major political party and disfavor the other.

To calculate this measure, Dr. DeFord obtained actual election data showing the votes cast for each candidate in each of the 9,178 voting precincts in each of 18

---

[50] Tr. 219:4–18.

[51] Duchin Opening at 17; DeFord Opening ¶78.

[52] DeFord Opening ¶¶78–79; *see also* Tr. 227:18–231:20.

23

statewide general elections from 2012 through 2020.[53]  "By overlaying the precinct-level election results on top of the geographic boundaries as shown on a particular map, he was able to determine whether a particular district had more Republican or Democratic votes during the elections."  *LWV I*, 178 A.3d at 773.[54]  He then compared the vote share the Democratic candidate would have obtained in each election in each proposed plan's "median" district—the ninth-most Democratic and ninth-most Republican district in each 17-district proposed plan—with the vote share that same candidate garnered statewide.[55]  That comparison is Dr. DeFord's mean-median score.[56]

Dr. DeFord reported both whether the mean-median score favored Democrats or Republicans in each of the 18 elections he analyzed, and an average mean-median score across them all.[57]  For HB2146, all 18 elections had a mean-median score favoring Republicans, and the average score was 2.9% favoring Republicans.[58]  By contrast, the GMS Plan had 13 elections where the mean-median score favored

---

[53] DeFord Opening ¶68.

[54] *See* DeFord Opening ¶¶70, 78–79.

[55] *Id.* ¶79.  In *LWV I*, experts calculated the mean-median score by identifying the median-district vote share and comparing it to the average vote share across the districts.  178 A.3d at 774.  Dr. DeFord explained that his manner of calculation—where the statewide vote share is used instead of the average district vote share—better controls for differences in voter turnout across districts in a redistricting plan.  DeFord Opening ¶79.

[56] *Id.* ¶78.

[57] *Id.* ¶¶97–100.
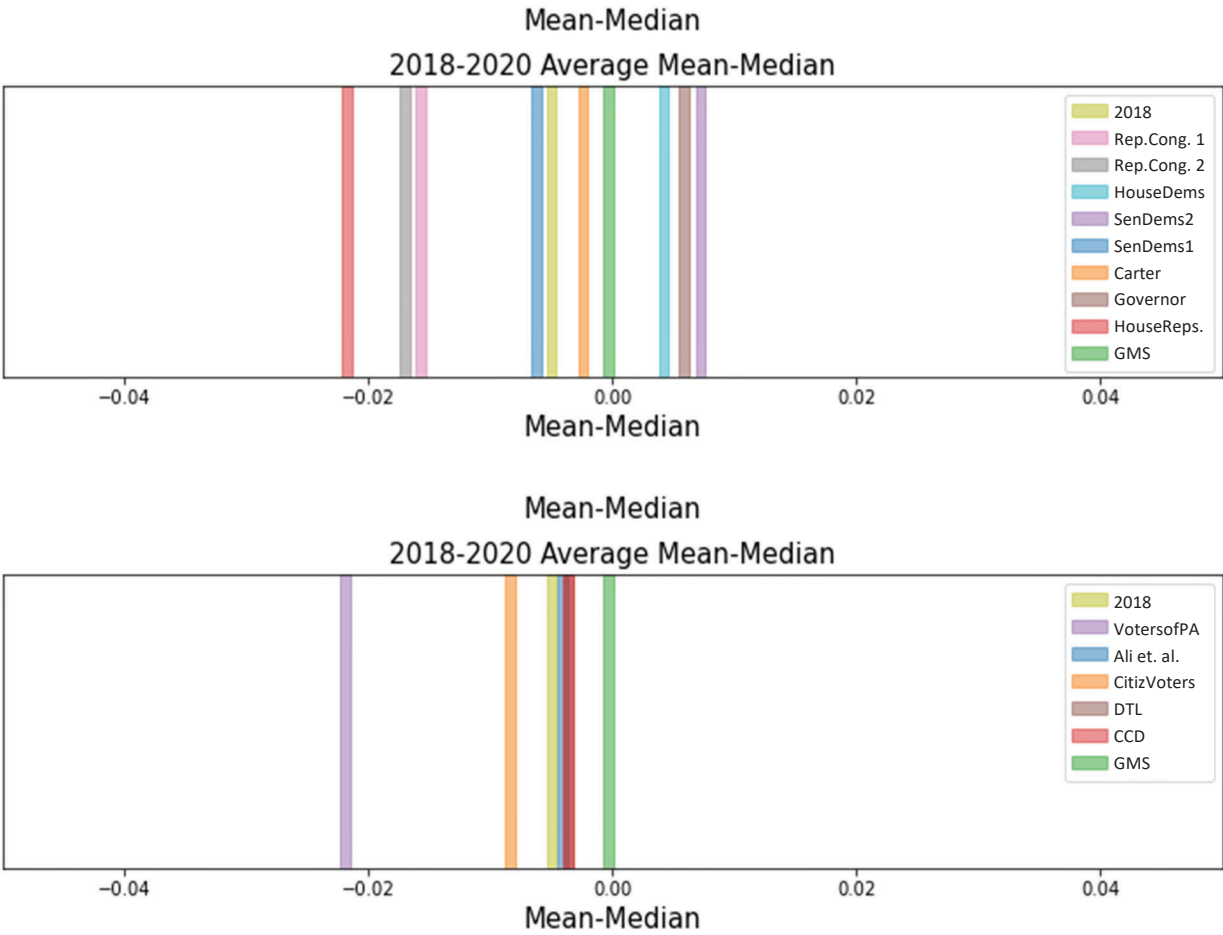
[58] DeFord Rebuttal Table 12.

Republicans and 5 where it favored Democrats; its average mean-median score is much closer to zero—0.8% in favor of Republicans.[59]  That 0.8% score is the second-best average mean-median score of all plans submitted by all parties and *amici*.[60]  For the most recent elections (2018–2020), which are likely to be the most reflective of the current political environment, the GMS Plan has the ***best*** average mean-median score of all plans.[61]  The following figures from Dr. DeFord show his mean-median calculations, averaged across elections from 2018 to 2020, with the bars colored according to the corresponding plan[62]:

---

[59] *Id.*

[60] DeFord Rebuttal ¶38, Table 12 and App'x A, Table 12a.

[61] *See* DeFord Rebuttal ¶39, Figure 3 and App'x A, Figure 3a.  Other experts also calculated the mean-median scores of each plan, though with different, less comprehensive sets of election results.  While Dr. DeFord relied on the results of 18 statewide elections from 2012 to 2020, Dr. Duchin relied on 12 elections (Duchin Opening at 18–19), Dr. Rodden relied on 11 elections (Rodden Opening at 4; Rodden Rebuttal at 7), and Dr. Barber relied on 17 elections (Barber Rebuttal at 13 n.5).  No matter which set of elections is used, the GMS Plan scored close to the ideal score of zero.  *See, e.g.*, Duchin Rebuttal at 4; Barber Rebuttal at 21.  Indeed, Governor Wolf's expert, Dr. Duchin, admitted that the GMS Plan is an "excellent plan" with partisan-fairness scores better than several of the plans that she initially had rated as "dominating the field" in this area.  Tr. 424:23–433:20.

[62] DeFord Rebuttal, Figure 3 and App'x A, Figure 3a. Comparatively, the Senate Democrats 2 Plan, which scores slightly better than the GMS Plan on average mean-median, scores further away from zero for the more recent elections.  *Id.* ¶39.

25

Mean-Median
2018-2020 Average Mean-Median



Mean-Median
2018-2020 Average Mean-Median

And as shown in the table below, the GMS Plan tied for the ***very best*** in its

mean-median score as calculated by PlanScore.org[63]—an independent site that Dr.

---

[63] DeFord Rebuttal, App'x D.  While Dr. Caughey assessed a few of the proposed plans, Dr. DeFord assessed all the plans.  To the extent they reached different results, Dr. DeFord's results should be used as he assessed all the plans and supplied his backup, *id.*; using his results guarantees an apples-to-apples approach.

Caughey testified is nonpartisan, transparent, and available to any member of the public.[64]  HB2146 scored among the very **worst**.[65]

| Plan | PlanScore's Mean-Median Score |
|---|---|
| GMS | 0.4% R |
| Carter | 0.4% R |
| Governor | 0.4% R |
| Sen. Dems. 2 | 0.5% R |
| Sen. Dems. 1 | 0.6% R |
| House Dems. | 0.7% D |
| Ali | 0.7% R |
| Draw the Lines | 1.0% R |
| Citizen-Voters | 1.7% R |
| Voters of PA | 2.2% R |
| HB2146 | 2.3% R |
| Reschenthaler 2 | 2.4% R |
| Reschenthaler 1 | 2.4% R |

## 2.    The GMS Plan Achieves a Near-Perfect Efficiency-Gap Score.

The *efficiency gap score*, also credited in *LWV I*, is "a formula that measures the number of 'wasted' votes for one party against the number of 'wasted' votes for another party," where "[t]he larger the number, the greater the partisan bias."  178 A.3d at 777.  As Dr. DeFord explained, a vote is considered "wasted" if it was for the losing candidate in a district or for the winning candidate but beyond the number needed to win the district, because "the most efficient distribution of votes is to carry

---

[64] *See* Tr. 962:21–964:8, 1009:10–23.  PlanScore allows anyone to submit a proposed redistricting plan and receive four partisan-fairness measures based on 2012–2020 election data from Pennsylvania's presidential and congressional elections.  *See* Tr. 915:21–916:7, 926:24–927:13, 1014:10–1015:8 (Caughey); *see also* Unified District Model, PLANSCORE (Dec. 2021), https://planscore.campaignlegal.org/models/data/2021D/.

[65] *See* DeFord Rebuttal, App'x D; *see also* Caughey Rebuttal at 12–15.

as many districts as possible by as narrow a margin as possible, while having the opposing party win its [smaller number of] districts by large majorities."[66]  An efficiency gap that is close to zero suggests neither party's voters are unfairly favored.[67]

The GMS Plan is among the best, with a mean efficiency-gap score extraordinarily close to zero (0.8%, as calculated by Dr. DeFord over 18 elections).[68] And as calculated by PlanScore.org, the GMS Plan scored better than all but one of the other plans, while HB2146 is again among the worst:[69]

| Plan | PlanScore's Efficiency-Gap Score |
|---|---|
| House Dems. | 1.2% D |
| GMS | 1.4% R |
| Carter | 1.8% R |
| Governor | 1.9% R |
| Sen. Dems. 2 | 2.4% R |
| Ali | 2.4% R |
| Sen. Dems. 1 | 2.5% R |
| Draw the Lines | 3.5% R |
| Citizen-Voters | 4.6% R |
| Reschenthaler 2 | 6.3% R |
| Reschenthaler 1 | 6.4% R |
| HB2146 | 6.6% R |
| Voters of PA | 6.8% R |

---

[66] DeFord Opening ¶80.

[67] *Id.* ¶¶97, 100.

[68] DeFord Rebuttal, Table 13.

[69] *See* DeFord Rebuttal, App'x D; Tr. 968:16–969:9 (Caughey).  Slightly better on this metric is the House Democrats Plan, *see* DeFord Rebuttal, App'x D, which is inferior to the GMS Plan by nearly every other metric.  *See infra* page 58.

28

### 3. The GMS Plan Achieves Superior Majority Responsiveness.

Another test of partisan fairness is a *majority-responsiveness measure* based on the plan's seats-votes curve.[70]  This measure evaluates the extent to which a proposed redistricting plan allows each political party to convert a majority of votes into a majority of seats, without making it harder for one party or the other to do so.[71] The GMS Plan is again among the best by this measure, with only three instances across the 18 elections that Dr. DeFord studied in which a majority of votes would not have been converted into a majority of seats.[72]  And these three instances were split between the political parties, suggesting that the plan does not make it harder for either party to convert a vote-share majority into a seat-share majority.[73]  By contrast, most other submitted plans had more instances when a vote majority did not translate into a seat majority,[74] or had antimajoritarian outcomes that always disadvantaged one party's voters but never the other party's voters.[75]  This table compares outcomes under the GMS Plan to those under HB2146, with

---

[70] DeFord Opening ¶¶73–76, 88–89; Duchin Opening at 14; Tr. 900:20–903:23 (Caughey).

[71] DeFord Opening ¶¶73–76; Tr. 361:9–364:9 (Duchin).

[72] DeFord Rebuttal, Tables 9 & 10.

[73] *Id.*; *see also* DeFord Opening ¶84.

[74] These are HB2146, the Governor's Plan, and the two Reschenthaler plans.  DeFord Rebuttal, Tables 9 & 10.

[75] No plan had all such outcomes favoring Democrats.   The following plans' antimajoritarian outcomes favored only Republicans:  HB2146, both Reschenthaler plans, Senate Democrats 1, Draw the Lines, Citizen-Voters, and Voters of PA.  *Id.*

29

antimajoritarian outcomes shaded either in red (favoring Republicans) or blue (favoring Democrats)[76]:

| Election | Winner | Dem. Vote % | GMS (Dem. Seats/ 17) | HB2146 (Dem. Seats/ 17) |
|---|---|---|---|---|
| U.S. President '12 | D | 52.7% | 59%  (10) | 53%  (9) |
| U.S. Senator '12 | D | 54.6% | 59%  (10) | 53%  (9) |
| Attorney General '12 | D | 57.5% | 71%  (12) | 76%  (13) |
| Auditor General '12 | D | 51.7% | 41%  (7) | 35%  (6) |
| State Treasurer '12 | D | 54.4% | 59%  (10) | 47%  (8) |
| Governor '14 | D | 54.9% | 59%  (10) | 53%  (9) |
| U.S. President '16 | R | 49.6% | 47%  (8) | 41%  (7) |
| U.S. Senator '16 | R | 49.3% | 53%  (9) | 29%  (5) |
| Attorney General '16 | D | 51.4% | 59%  (10) | 41%  (7) |
| Auditor General '16 | D | 52.6% | 47%  (8) | 41%  (7) |
| State Treasurer '16 | D | 53.4% | 59%  (10) | 59%  (10) |
| Justice '17 | R | 47.7% | 41%  (7) | 35%  (6) |
| Governor '18 | D | 58.7% | 65%  (11) | 59%  (10) |
| U.S. Senator '18 | D | 56.7% | 59%  (10) | 59%  (10) |
| U.S. President '20 | D | 50.6% | 53%  (9) | 47%  (8) |
| Attorney General '20 | D | 52.3% | 59%  (10) | 59%  (10) |
| Auditor General '20 | R | 48.4% | 47%  (8) | 29%  (5) |
| State Treasurer '20 | R | 49.6% | 47%  (8) | 41%  (7) |

### 4. The GMS Plan's Competitive Districts Ensure Evenhanded Responsiveness to Shifts in Voter Opinion.

The GMS Plan also achieves perfect balance on a measure of districts that are potentially responsive or competitive between the political parties. Again looking across 18 statewide general elections, the GMS Plan contains 5 districts that consistently voted Democratic in those elections, 5 districts that consistently voted

---

[76] DeFord Rebuttal, Table 9 (percentages rounded).

Republican, and 7 districts that have swung for either party.[77]  The GMS Plan is one

of only two submitted plans that achieves a perfect balance on this measure, with an

equal number of districts that consistently voted in favor of each party.[78]

<div align="center">* * *</div>

In sum, across the full range of measurements for partisan fairness, the GMS

Plan is either the very best, or among the very best, of all submitted plans.  As

measured by PlanScore, the GMS Plan is indisputably the best.  *See* Attachments A

& B.  Thus, the GMS Plan best vindicates the constitutional guarantee to give "all

voters … an equal opportunity to translate their votes into representation."  *LWV I*,

178 A.3d at 814.

> **B.**    **The GMS Plan Best Provides Minority Voters with the Opportunity to Translate Their Votes into Representation.**

The GMS Plan also provides minority-group members with an equal

opportunity "to translate their votes into representation."  *LWV I*, 178 A.3d at 804.

Ensuring minority electoral opportunity requires compliance with both the U.S.

Constitution and Section 2 of the Voting Rights Act (VRA), 52 U.S.C. §10301.  *See*

*LWV I*, 178 A.3d at 817 n.72; *see also* PA. CONST. art. I, §29 ("Equality of rights

under the law shall not be denied or abridged in the Commonwealth of Pennsylvania

---

[77] DeFord Rebuttal ¶33 & Table 11; Tr. 224:16–226:4.

[78] DeFord Rebuttal, Table 11 and App'x A, Table 11a.  The other is the Draw the Lines Plan.  *Id.*

<div align="center">31</div>

because of the race or ethnicity of the individual."). A plan cannot make excessive or unjustified use of race or racial data. *See Shaw v. Reno*, 509 U.S. 630, 642, 646–49 (1993). Nor can the plan deny or abridge the right to vote on account of race, color, or membership in a language minority group. 52 U.S.C. §10301.

To satisfy federal law, a redistricting plan should provide effective opportunities for minority-group members to nominate and elect their preferred candidates in a number of reasonably compact districts "roughly proportional" to the minority group's share of the state's citizen voting-age population, or CVAP. *LULAC v. Perry*, 548 U.S. 399, 426, 436–38 (2006); *Johnson v. De Grandy*, 512 U.S. 997, 1000 (1994).[79] About 20% of the Commonwealth's CVAP belongs to a racial or language minority group, with Black and Latino adult citizens constituting about 11% and 6%, respectively.[80] In a 17-district plan, 20% of 17 districts would equal 3.4 districts. Under the "rough" proportionality principle, this means Pennsylvania should have at least three congressional districts where minority voters have a realistic opportunity to nominate and then elect their preferred candidates.

---

[79] In *Mellow*, this Court relied on a similar proportionality analysis to conclude that an additional district in which Black voters would have an opportunity to nominate and elect their preferred candidates should be included in the congressional plan. *See* 607 A.2d at 206–07 (discussing the need for a second Black opportunity district in a 21-district plan "in light of Pennsylvania's 9% African-American population").

[80] U.S. Census Bureau, *American Community Survey: S2901 Citizen Voting-Age Population by Selected Characteristics*, https://data.census.gov/cedsci/table?q=citizen&g=0400000US42&d=ACS%201-Year%20Estimates%20Subject%20Tables&tid=ACSST1Y2019.S2901 (last visited Feb. 12, 2022); *see also* Tr. 242:11–15.

32

The GMS Plan satisfies this principle.  Unlike any of the other plans, the GMS Plan includes *three* majority-minority districts in which minority citizens will have such an opportunity, and in one of those, Latino adult citizens would constitute the largest minority group.  Both of these features would be historic firsts for the Commonwealth—a reflection of the Commonwealth's diversifying population.  The GMS Plan's minority opportunity districts are described below.

**District 2**
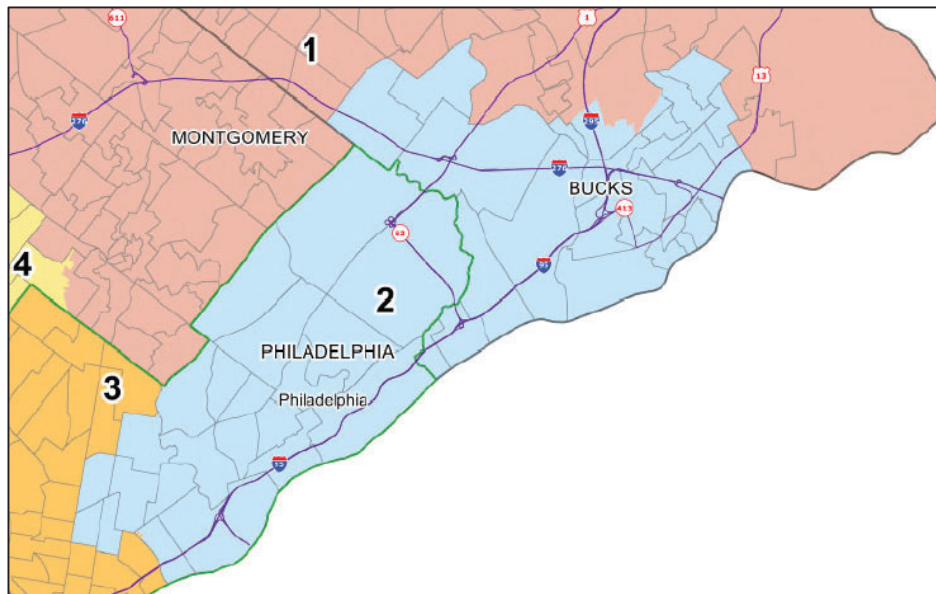


District 2 connects Northeast Philadelphia with similar communities in southern Bucks County, including the relatively diverse townships of Bensalem, Bristol, and Middletown.  Minority-group members constitute 52% of the district's voting-age population,[81] and District 2 would be the first majority-minority

---

[81] DeFord Opening ¶117.

33

congressional district in Pennsylvania to have more Latino than Black adult citizen

residents.[82]   The district has been carried by Latino-preferred candidates in 18 of 18

recent statewide general elections and 7 of 10 recent statewide Democratic primaries

(and the three exceptions were all more than five years ago).[83]   The percentage of

proposed District 2's adult citizen population that is Latino is increasing by about a

half percentage point a year.[84]   And a glimpse of the promising future for Latino

voters in this proposed district can be seen in the May 2021 Democratic primary

election for Philadelphia's District Attorney, in which Latino candidate Carlos Vega,

who won only 33% of the vote citywide, nonetheless easily carried the Philadelphia

portion of this district with 64% of the vote.[85]

---

[82] In general elections in the Philadelphia area, Black voters and Latino voters consistently and cohesively support the same candidates, usually by landslide margins, as more than 90% of Black voters and more than 60% of Latino voters cast their ballots for Democratic candidates.  *See* DeFord Opening ¶¶9, 119, 135, 140.

[83] *See Id.* ¶55, Table 4.

[84] *Id.* ¶140.

[85] *Id.*  About 80% of proposed District 2's residents live in Philadelphia.

34
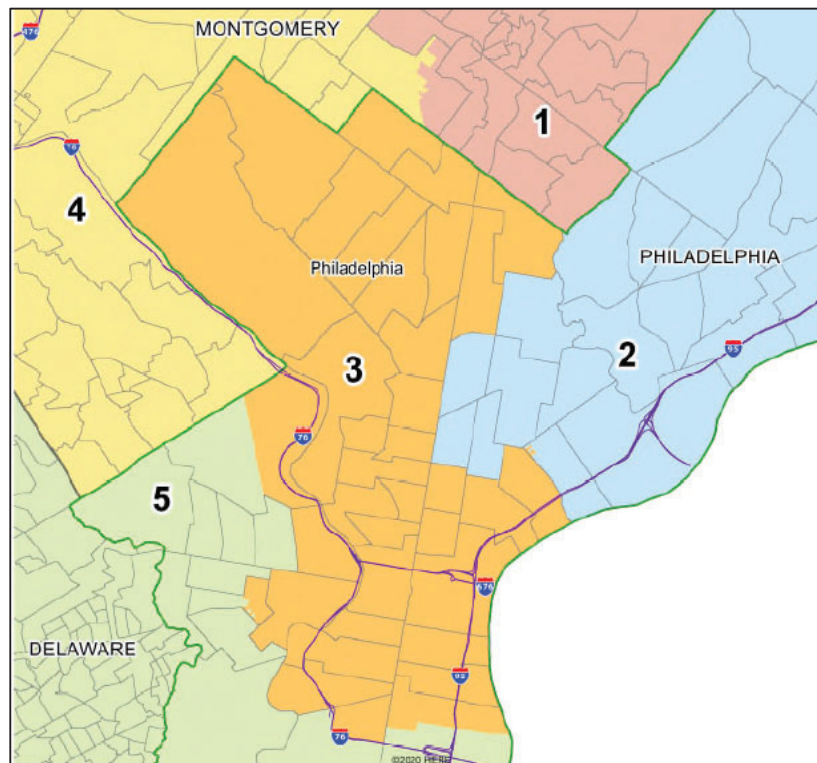
**District 3**



District 3 consists entirely of communities within Philadelphia city limits, joining Northwest Philadelphia, Center City, and parts of West and South Philadelphia. Minority-group members constitute 57% of the district's voting-age population.[86] Proposed District 3 maintains the core of current District 3 and is a minority opportunity district with a track record of strongly supporting the same Black-preferred candidates that current District 3 supports.[87]

---

[86] DeFord Opening ¶117.

[87] Dr. DeFord found that proposed District 3 and current District 3 voted for the same candidate in every citywide Democratic primary since 2015 involving candidates from more than one racial or language minority group. *See id.* ¶48, Table 2.

35
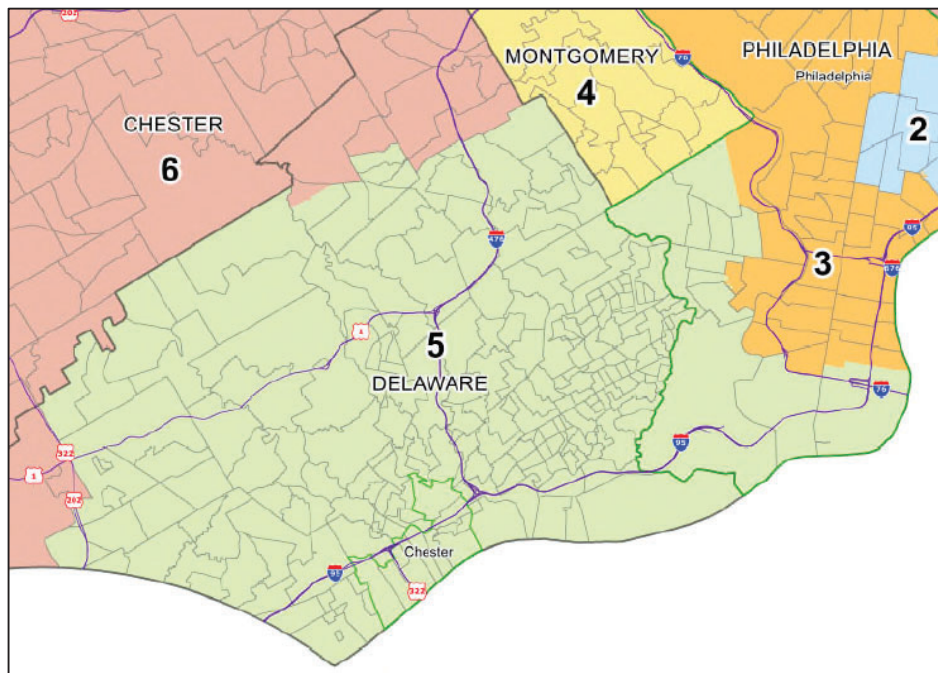
**District 5**



District 5 contains most of Delaware County, linked with parts of West and South Philadelphia.   These neighboring communities include the Philadelphia International Airport at the county border, as well as industrial areas in Southwest Philadelphia and the Navy Yard, connecting them with industrial and port facilities south of Philadelphia in Delaware County.  Minority-group members constitute 51% of the district's voting-age population.[88]   And District 5 is also a minority opportunity district with a track record of strongly supporting the same Black-preferred candidates that the current District 3 supports.[89]

\* \* \*

---

[88] DeFord Opening ¶117.
[89] *Id.* ¶¶118–19, 128.

The GMS Plan creates these ample opportunities for minority voters without allowing race to predominate. As Dr. DeFord testified, there is no evidence the GMS Plan was created to specifically benefit any racial group or to hit an arbitrary threshold of minority voting-age population.[90]  Each of the GMS Plan's minority opportunity districts is compact, contiguous, and respectful of municipal and ward boundaries and does not raise any concerns associated with racial gerrymandering. Thus, in addition to performing optimally on the neutral criteria and partisan fairness, the GMS Plan also best results in opportunity for Pennsylvania's diversifying population.

## III.    The GMS Plan Best Addresses Other Legitimate Redistricting Factors.

Though "wholly subordinate" to the neutral criteria and compliance with the Free and Equal Elections Clause, other factors also may play a legitimate role in redistricting.    These can include avoiding incumbent pairings, minimizing unnecessary changes to a prior map, and preserving communities of interest.  *See LWV I*, 178 A.3d at 817.

---

[90] Tr. 243:13–244:3; *see also Cooper v. Harris*, 137 S. Ct. 1455, 1469 (2017); *Bethune-Hill v. Va. State Bd. of Elections*, 137 S. Ct. 788, 799, 801–02 (2017); *Ala. Legis. Black Caucus v. Alabama*, 575 U.S. 254, 266–67, 275 (2015); *Bush v. Vera*, 517 U.S. 952, 969–73 (1996) (plurality opinion).

37

A.     **Unlike Every Other Plan, the GMS Plan Pairs No Incumbents Seeking Reelection.**

The protection of incumbents can play a role in Pennsylvania's redistricting process.  *See LWV I*, 178 A.3d at 817.  Indeed, incumbent "pairing" can be relevant to partisan fairness where a map disproportionately pairs the incumbents of one political party.

The GMS Plan is the only plan that pairs *zero* incumbent Representatives seeking reelection in 2022.[91]  By contrast, HB2146, the Carter Plan, the Senate Democrats Plan 1, and the Reschenthaler Plan 2 each pair *two* incumbents seeking reelection, and each of the other plans pairs *four* such incumbents.[92]  Some of these pairings have a partisan imbalance:  The Senate Democrats Plan 2 and the House Democrats Plan pair three Republicans, while the Reschenthaler Plan 1 pairs three Democrats.[93]  The following table summarizes incumbent pairings, with asterisks identifying incumbents not running for reelection[94]:

---

[91] DeFord Rebuttal ¶45, Table 15 and App'x A, Table 15a.

[92] *Id.*

[93] *Id.*

[94] *Id.*

38

| Plan | Number of Incumbents Seeking Reelection Who Are Paired | Names of Paired Incumbents (an asterisk indicates the incumbent is not seeking reelection) |
|---|---|---|
| GMS | 0 | **District 14:**  Reschenthaler (R) and Lamb* (D) |
| HB2146 | 2 | **District 8:**  Meuser (R) and Cartwright (D)<br>**District 15:** Lamb* (D) and Doyle* (D) |
| Carter | 2 | **District 15:**  Keller (R) and Thompson (R)<br>**District 17:**  Lamb* (D) and Doyle* (D) |
| Sen. Dems. 1 | 2 | **District 9:**  Meuser (R) and Keller (R) |
| Reschenthaler 2 | 2 | **District 7:**  Keller (R) and Cartwright (D) |
| Governor | 4 | **District 5:**  Dean (D) and Scanlon (D)<br>**District 12:** Keller (R) and Joyce (R) |
| Sen. Dems. 2 | 4 | **District 1:**  Fitzpatrick (R) and Boyle (D)<br>**District 9:**  Meuser (R) and Keller (R) |
| House Dems. | 4 | **District 8:**  Meuser (R) and Cartwright (D)<br>**District 11:**  Perry (R) and Smucker (R)<br>**District 17:**  Lamb (D)* and Doyle (D)* |
| Reschenthaler 1 | 4 | **District 7:**  Keller (R) and Cartwright (D)<br>**District 13:**  Scanlon (D) and Houlahan (D) |
| Draw the Lines | 4 | **District 1:**  Fitzpatrick (R) Boyle (D)<br>**District 9:**  Meuser (R) and Keller (R) |
| Citizen-Voters | 4 | **District 5:**  Scanlon (D) Dean (D)<br>**District 8:**  Meuser (R) and Cartwright (D)<br>**District 17:**  Lamb* (D) and Doyle* (D) |
| Ali | 4 | **District 5:**  Scanlon (D) Dean (D)<br>**District 9:**  Meuser (R) and Keller (R) |
| Voters of PA | 4 | **District 1:**  Fitzpatrick (R) and Boyle (D)<br>**District 8:**  Meuser (R) and Cartwright (D) |

Especially given the importance of seniority in Congress, the Commonwealth would benefit from a plan that does not pit incumbents against each other.

39

### B.     The GMS Plan Pays Proper Deference to the 2018 Plan.

The "preservation of prior district lines," otherwise known as "least change,"

is another subordinate factor the Court may consider. *LWV I*, 178 A.3d at 817.  As

Professor Persily has noted, one legitimate purpose of the "least change" approach

is to avoid the targeting of specific officeholders for defeat.[95]  It appears that some

plans, unlike the GMS Plan, may have taken this approach.   The most senior

Democrat in Pennsylvania's House delegation, District 8's Congressman Matt

Cartwright—one of only seven Democratic Representatives nationwide who won in

November 2020 while President Trump carried his district[96]—finds himself not only

paired with a Republican incumbent in six plans (see the table above), but also placed

in a district with tens of thousands of new constituents and a significantly larger

Republican base in seven of the thirteen proposed plans.[97]

In general, using metrics like "retained population share" to illustrate plan-

wide that a redistricting plan is "least change"[98] has limited utility when a change to

---

[95] *See* Nathaniel Persily, *In Defense of Foxes Guarding Henhouses:  The Case for Judicial Acquiescence to Incumbent-Protecting Gerrymanders*, 116 HARV. L. REV. 649, 662–63 (2002) (noting that incumbent-protecting districts "frequently operate under a 'least-change' principle").

[96] J. Miles Coleman, *2020's Crossover Districts*, Ctr. for Politics (Feb. 4, 2021), https://centerforpolitics.org/crystalball/articles/2020s-crossover-districts/.

[97] Those seven plans are HB2146, Reschenthaler Plans 1 and 2, the Voters of PA Plan, the Citizen-Voters Plan—and curiously, both the Governor's Plan and the House Democrats Plan. *See* DeFord Rebuttal, Table 15 and App'x A, Table 15a.

[98] *See* Rodden Opening at 20.

40

the number of districts makes it impossible to directly compare the old district to a new district (*i.e.,* there can be no "new" District 18 in a 17-district map). In any event, the GMS Plan performs well on this metric. Between 73% and 95% of the population in most of the GMS Plan's districts comes from the district's predecessor in the 2018 Plan, and that is equally true for districts currently represented by Democrats like Representatives Cartwright, Houlahan, and Wild, and by Republicans like Representatives Fitzpatrick, Kelly, and Thompson.

## C.    The GMS Plan Preserves Communities of Interest.

As noted above, the GMS Plan performs better than any other plan in keeping political subdivisions together. Because protecting subdivisions helps "maintain the geographical and social cohesion of the communities in which people live and conduct the majority of their day-to-day affairs," *LWV I*, 178 A.3d at 814, the GMS Plan likewise preserves communities of interest. However, keeping together communities that do not dovetail precisely with political subdivisions but nonetheless reflect a "common economic base," "circulation arteries," shared "schools of higher education," and common "news media" also can be an appropriate, *Mellow*, 607 A.2d at 208, 220–21, though "wholly subordinate," *LWV I*, 178 A.3d at 817, consideration in redistricting, *see also Holt II*, 67 A.3d at 1241–42.

41

A district-by-district overview demonstrates how the GMS Plan—beyond preserving political subdivisions—also substantially preserves communities defined by actual shared interests.[99]
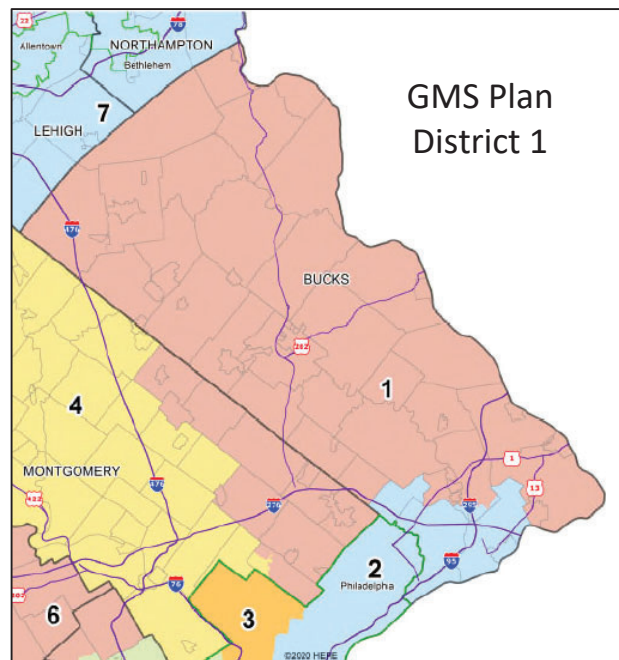


**District 1:**  District 1 joins all the communities of Bucks County (other than the relatively diverse inner suburbs nearest to Northeast Philadelphia) with similar communities along the Montgomery County/Bucks County border.  This approach is sensible:  The communities of Bucks and Montgomery Counties are so closely aligned that the local newspapers in the former county cover news in the latter

---

[99] Each of these insets outlines counties in black and cities in green.  For most insets, boroughs and townships (along with Pennsylvania's sole incorporated town) are outlined in gray.  For districts in the Philadelphia area, the gray lines show ward boundaries.

42

county.[100]  This area has also experienced notable population growth over the past

decade, fueled in part by the rapid expansion of biotechnology in both counties.[101]



GMS Plan
District 2
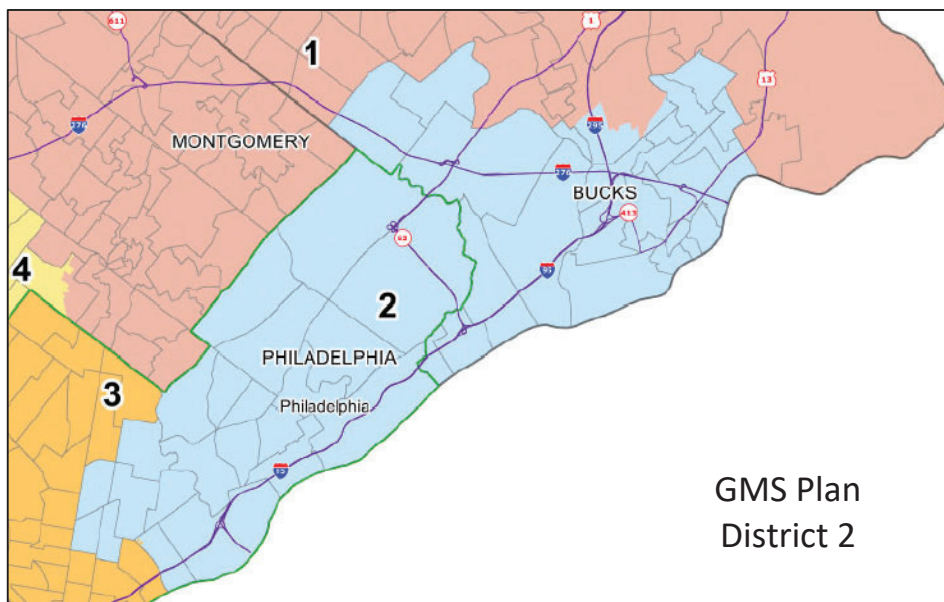
**District 2:**  As noted above, District 2 joins a diversifying population in lower

Bucks County (including Bensalem, Bristol, and Middletown) with a similar

population in Northeast Philadelphia and thus is a minority opportunity district that

could provide historic opportunities to Pennsylvania's growing Latino population.

Inner-suburban communities in lower Bucks County, such as Bensalem, also share

---

[100] *See, e.g.*, Nick Siano, *Snow Storm Closures: See What's Closed, Delayed in Bucks and Montgomery Counties*, Bucks Cty. Courier Times (Dec. 17, 2020), https://www.buckscountycouriertimes.com/story/news/2020/12/16/bucks-montgomery-county-closures-see-whats-closed-thursday-pa-storm/3933497001/; Christopher Dornblaser, *Deed Scam Targeting Montgomery County Homeowners*, Bucks Cty. Courier Times (Sept. 10, 2020), https://www.buckscountycouriertimes.com/story/news/2020/09/10/deed-scam-targeting-montgomery-county-homeowners/3460196001/.

[101] *See* Christine Tarlecki, *Montgomery County Makes List of Top 10 Biopharma Clusters Nationwide*, MontCo.Today (Mar. 23, 2021), https://montco.today/2021/03/montgomery-county-makes-list-of-top-10-biopharma-clusters-nationwide/.

43

economic interests more akin to their Northeast Philadelphia neighbors than to the more exurban or rural communities in upper Bucks County.   This district is connected by Interstate 95, Roosevelt Boulevard (US-1), and multiple SEPTA bus and train lines.
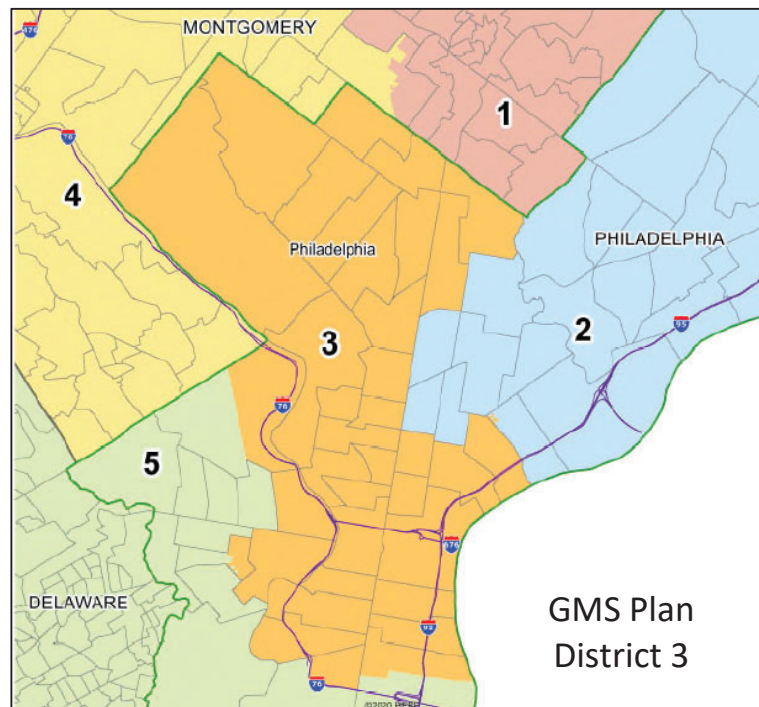


**District 3:**  As noted above, District 3 consists entirely of communities within Philadelphia city limits and is a minority opportunity district, much like District 3 in the 2018 Plan.

GMS Plan District 4
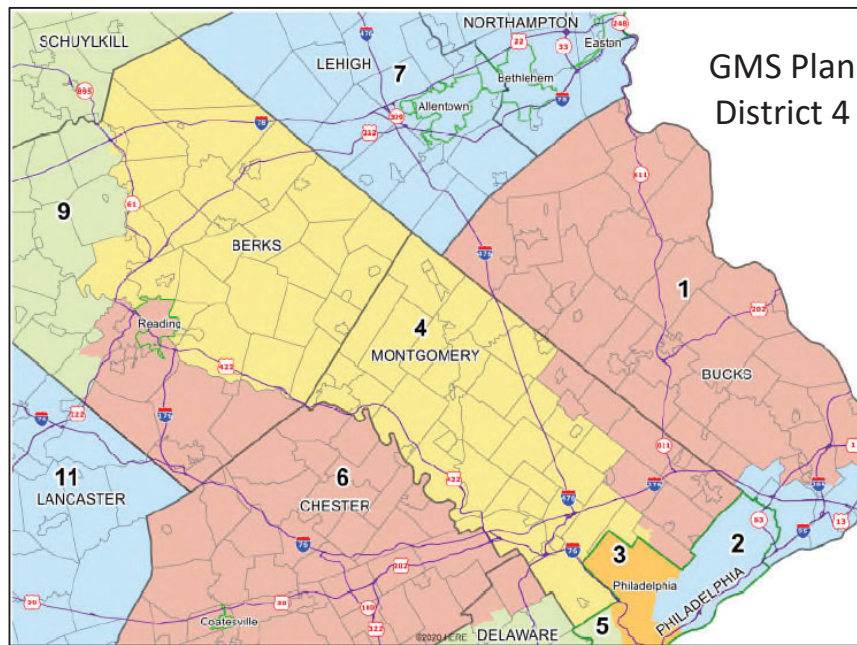
**District 4:** District 4 unites most of rapidly growing Montgomery County with the neighboring communities of eastern Berks County. It follows the northern end of Pottsville Pike (PA-61 N) to the Schuylkill County border, keeping together communities such as Leesport and Hamburg in northern Berks County.



GMS Plan District 5

45
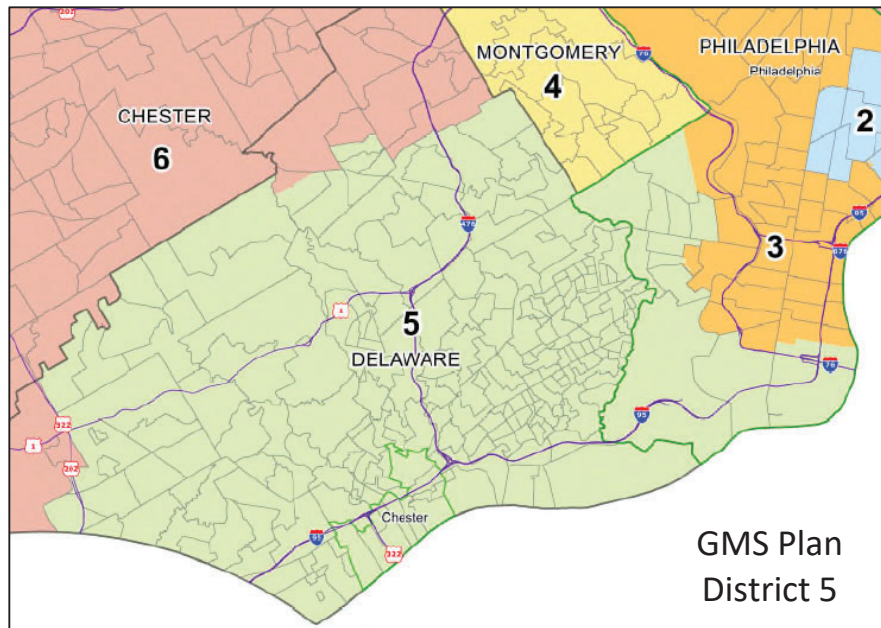
**District 5:**  As described above, District 5 is the GMS Plan's third minority opportunity district and encompasses communities stretching across the Philadelphia-Delaware County border.



GMS Plan District 6
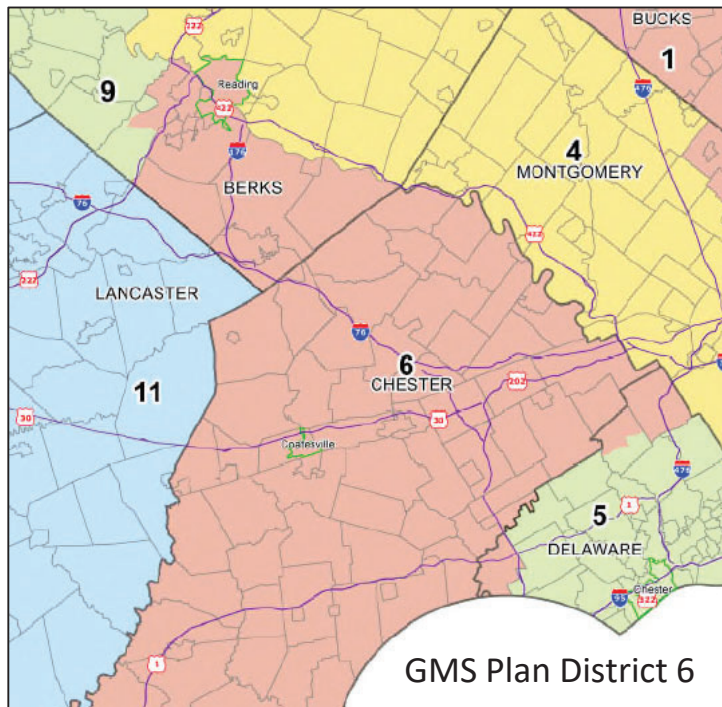
**District 6:**  District 6 keeps Chester County intact and, like the 2018 Plan, links it with portions of Delaware County and Berks County, including a region noted for state parks and other natural areas.  The district includes all of Reading, Pennsylvania's fourth largest city, with a growing Latino population.  The counties joined in District 6 share strong population growth and increasing diversity.

46
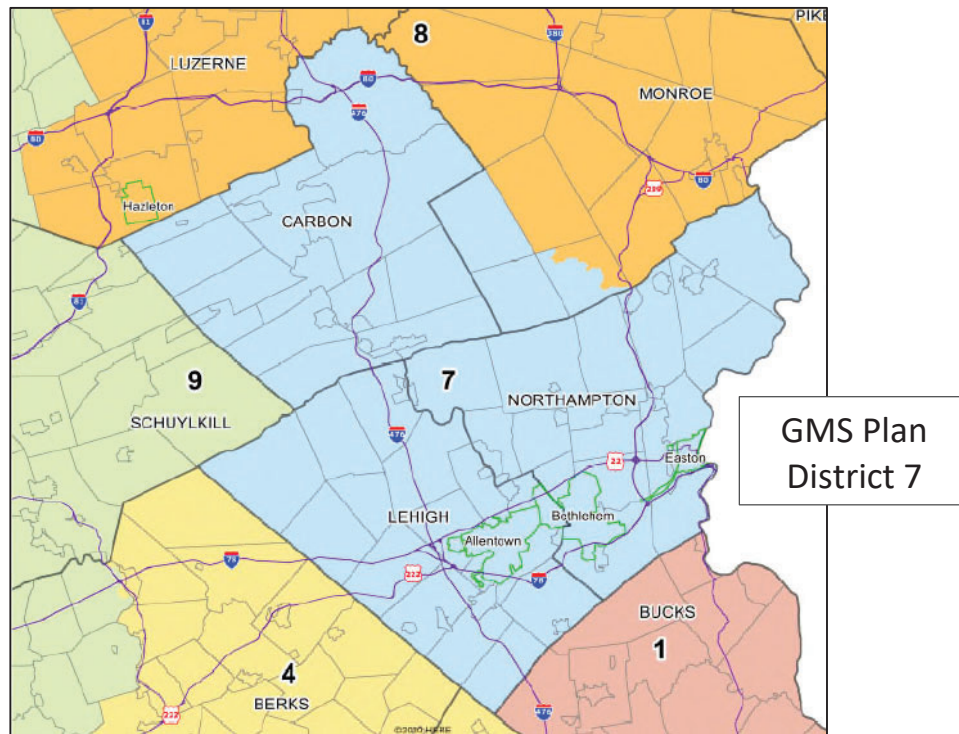
**District 7:** District 7 joins all of Lehigh, Northampton, and Carbon Counties and thus preserves the core of the Lehigh Valley, keeping the Allentown-Bethlehem-Easton area intact. This district is connected via the Northeast Extension of the Pennsylvania Turnpike (I-476) and its arteries.

47
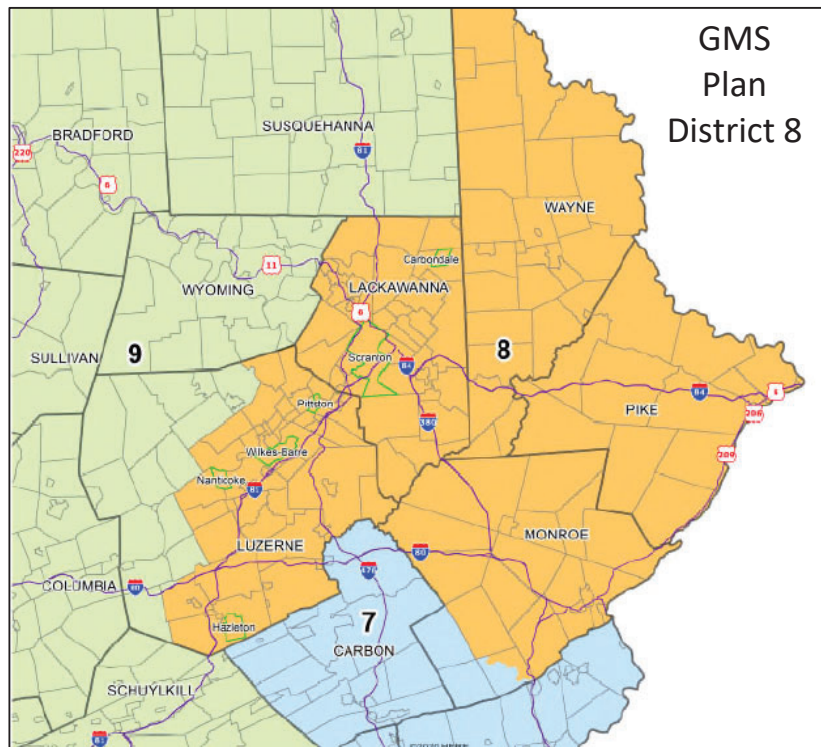
**District 8:**   District 8 keeps whole Lackawanna, Wayne, and Pike Counties, and joins them with most of Luzerne and Monroe Counties.  This District is anchored by Scranton, Wilkes-Barre, and Hazleton, joining those cities with compatible communities in the Poconos.

48

GMS Plan District 9
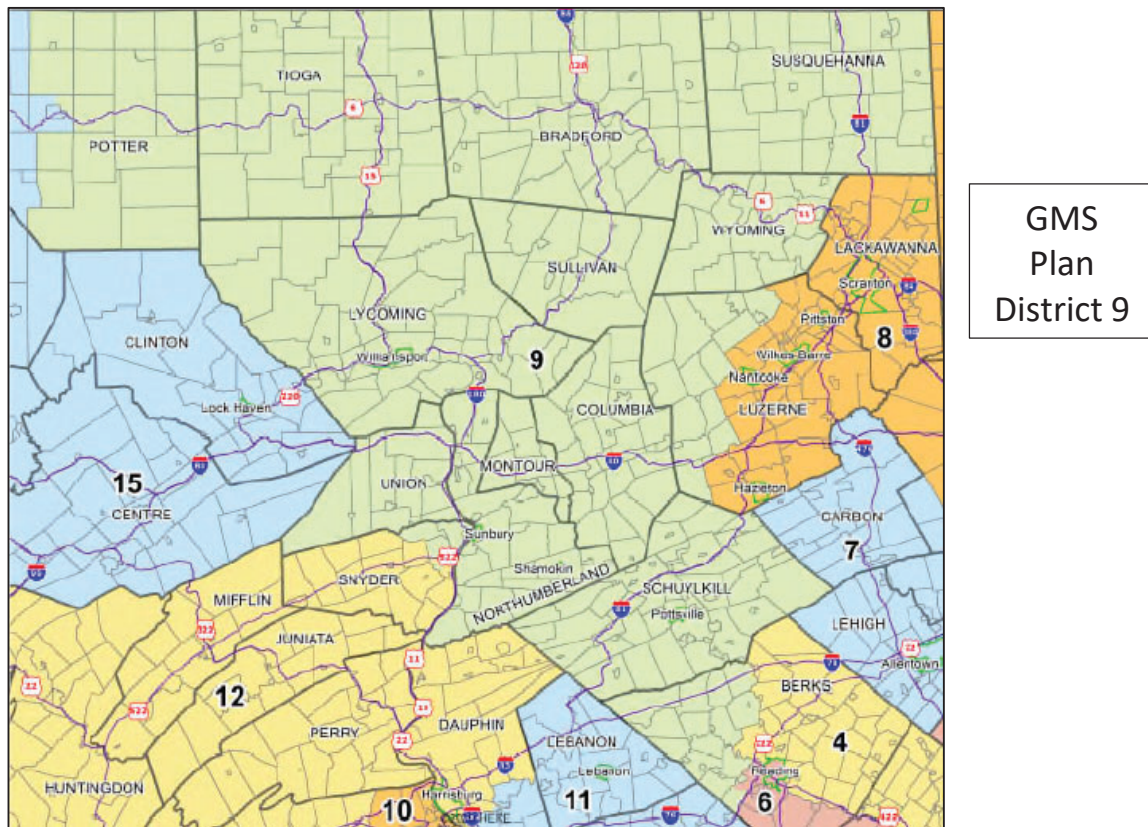
**District 9:**   District 9 groups the Northern Tier counties of Susquehanna, Bradford, Tioga, and most of Potter with adjoining counties to the south.   This portion of the state is experiencing slow population growth, and this district keeps these communities together while preserving 11 counties intact.

49
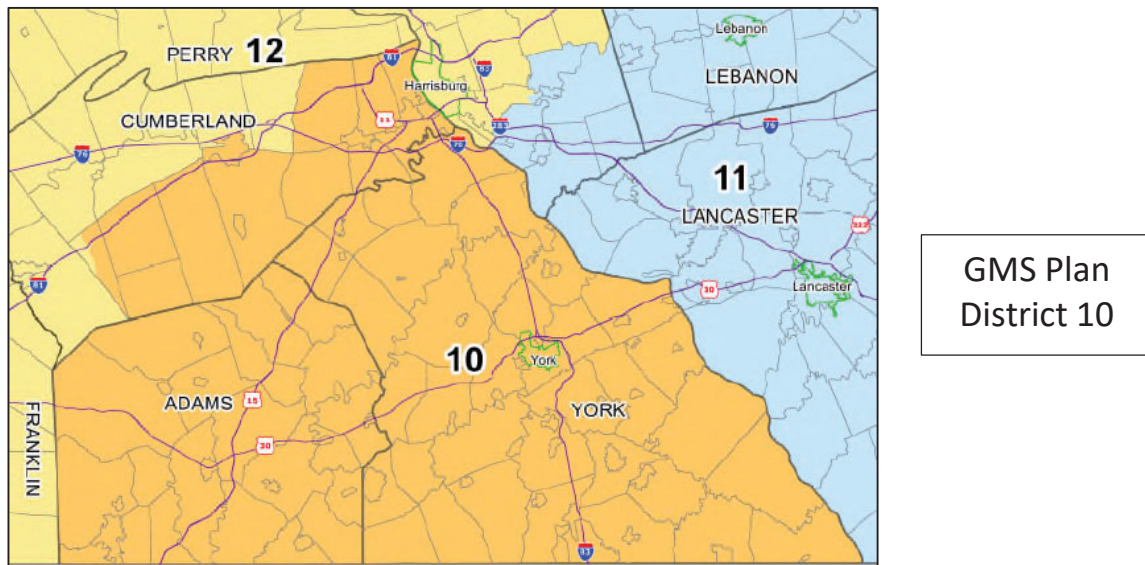
**District 10:** District 10 joins all of Adams County and York County—keeping intact the York-Hanover and Gettysburg Metropolitan Statistical Areas—with adjoining communities in central and eastern Cumberland County, including the county seat of Carlisle. District 10 includes farmland and a shared agricultural heritage but also encompasses a rapidly growing and diversifying area that shares growing manufacturing and logistics industries; is home to many colleges and universities; and is connected by major transportation arteries.

50

A1791
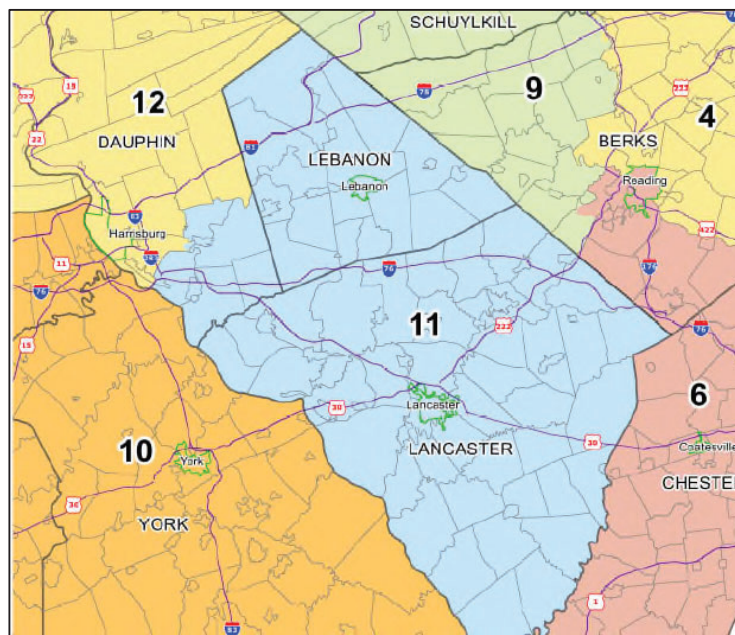
GMS Plan
District 11

**District 11:**  District 11 keeps all of Lancaster and Lebanon Counties intact, as well as the Lancaster and Lebanon MSAs, along with similarly fast-growing and increasingly diverse neighboring communities in Dauphin County.  Lebanon and Lancaster Counties feature a shared agricultural history, as well as major regional healthcare providers Lancaster General Hospital and the Penn State Health Milton S. Hershey Medical Center.  District 11 is connected by Route 283 and the Turnpike.

51
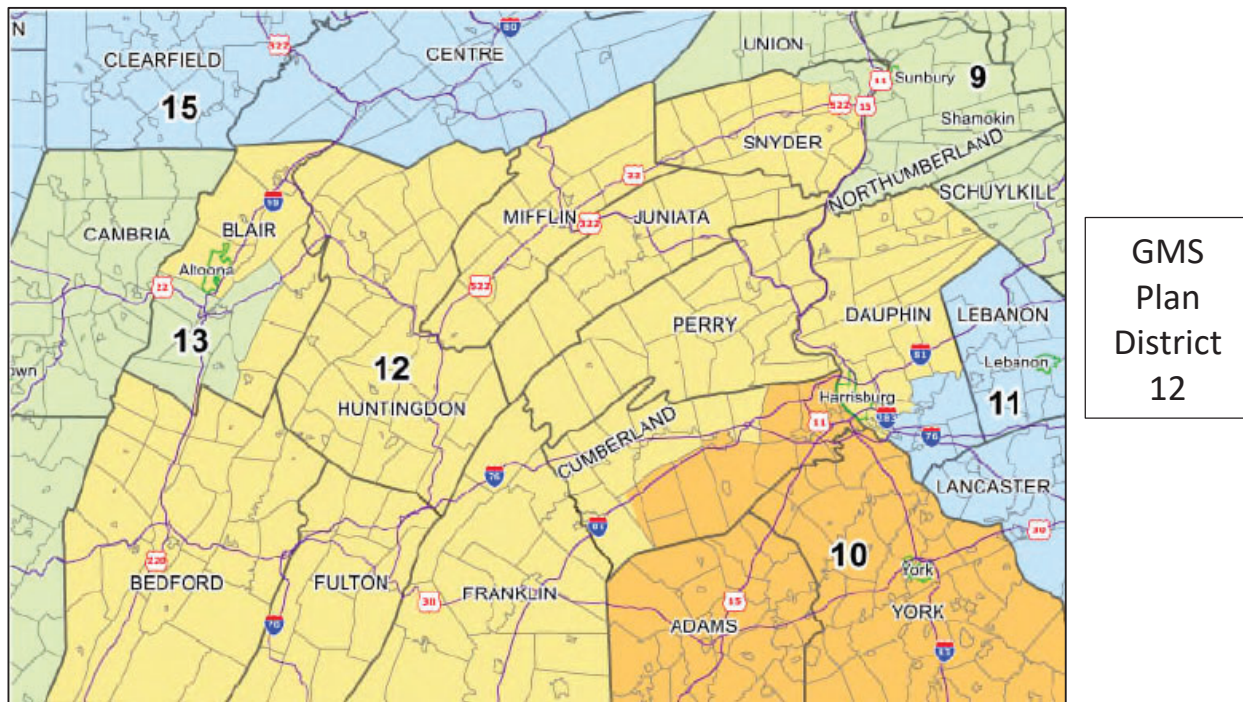
**District 12:**  District 12 keeps intact seven whole counties—Bedford, Fulton, Franklin, Huntingdon, Mifflin, Juniata, and Perry—as well as the Chambersburg-Waynesboro MSA.  Grouping these counties with parts of Blair, Cumberland, Snyder, and Dauphin Counties, the district contains the mountainous and rural region of south-central Pennsylvania.  This district is anchored by the intact cities of Harrisburg and Altoona, whose sports teams compete in the Mid Penn Conference.[102]  Amtrak operates a daily train traversing this district from Altoona to Harrisburg.

---

[102] *See, e.g.*, Jon Fauber, *Harrisburg Girls Fall to Altoona Despite Big Outing from Ahnae Robinson*, PennLive (Feb. 2, 2022), https://www.pennlive.com/highschoolsports/2022/02/harrisburg-girls-fall-to-altoona-despite-big-outing-from-ahnae-robinson.html.
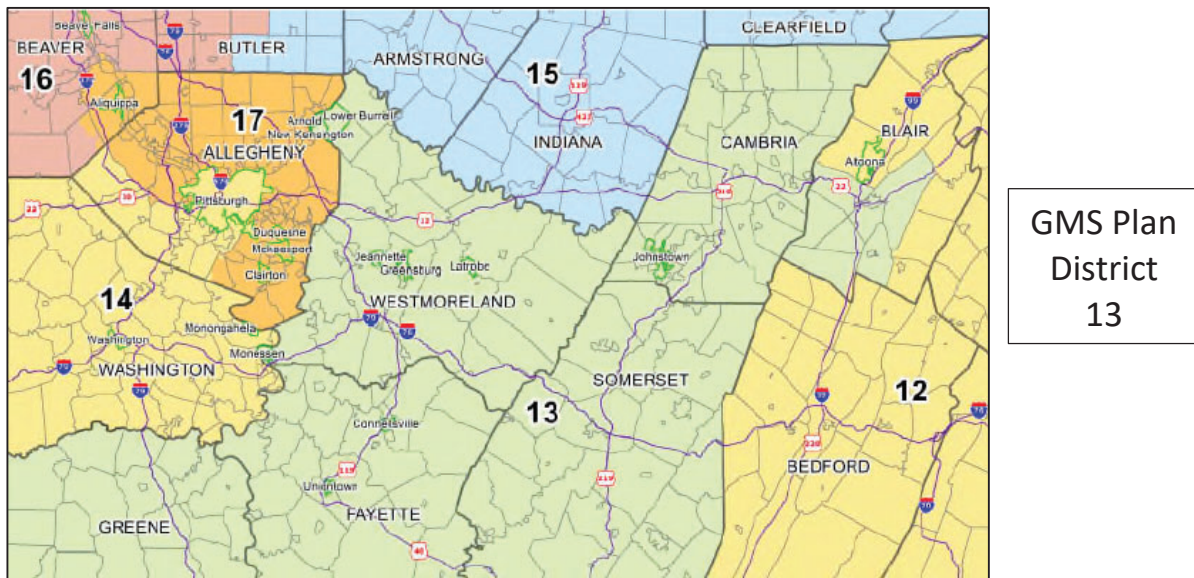
**District 13:**   District 13 joins all the Laurel Highlands—Westmoreland, Fayette, and Somerset Counties—with Greene County to the southwest and Cambria County and parts of Blair County to the northeast.  This District keeps five counties intact and unites communities with similar economic characteristics and interests in this mountainous area that has historically been a major source of American energy production.   Outdoor recreational opportunities in the Laurel Highlands are contributing to a growth in tourism in the area.

53

GMS Plan
District 14
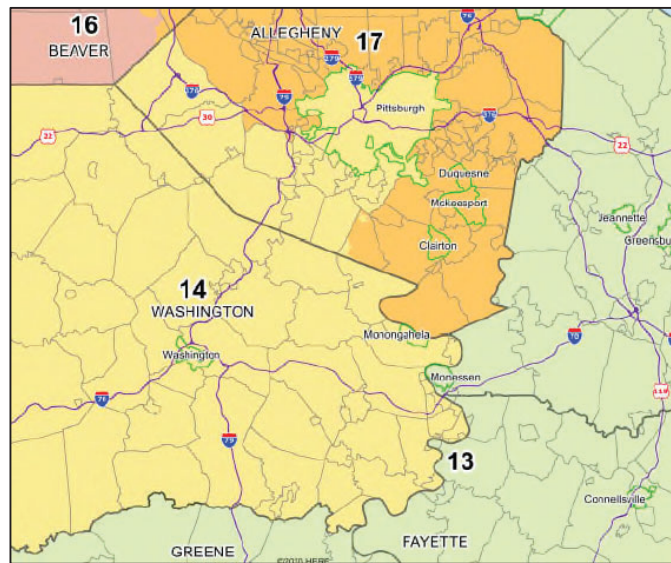
**District 14:**  District 14 centers on Pittsburgh, the Commonwealth's second-largest city, which is kept fully intact.  It pairs Pittsburgh with its southwest Allegheny County suburbs and all of neighboring Washington County.  The recently opened Southern Beltway runs through District 14, connecting residents of Washington County to southwest Allegheny County, including the Pittsburgh International Airport and surrounding areas—a reflection of the growing economic ties across this district.  Indeed, Washington County—home to many Marcellus Shale natural-gas wells—has become an engine of job creation in the Pittsburgh area.[103]

---

[103]  *Washington County*, Pittsburgh Region, https://pittsburghregion.org/the-region/washington-county/ (last visited Feb. 12, 2022).
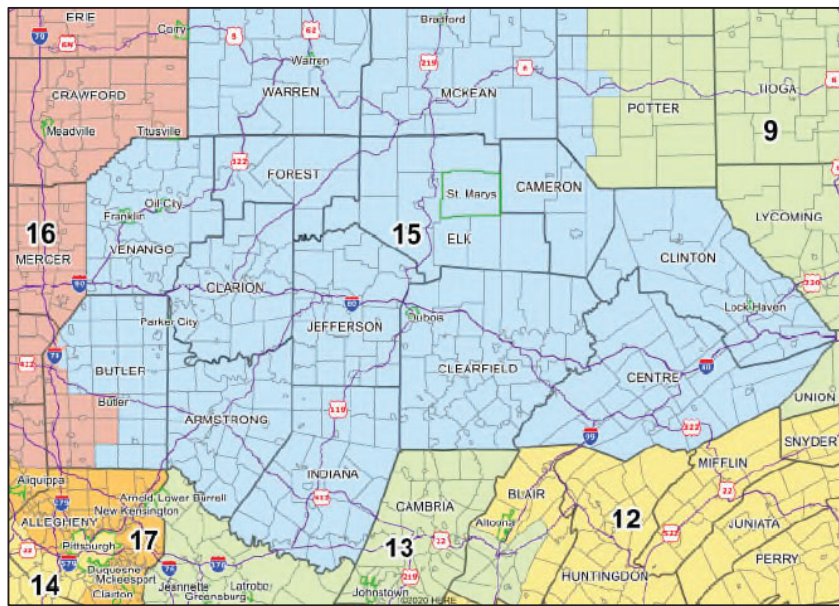
**District 15:** District 15 gathers much of the Pennsylvania Wilds in one district, keeping 13 counties, as well as the State College-Dubois Combined Statistical Area (CSA), whole and intact. District 15 brings together communities that share geological characteristics and economic interests in tourism, outdoor recreational opportunities, and energy production. Whereas the 2018 Plan separated State College from some of its neighbors, this district keeps Centre County whole.
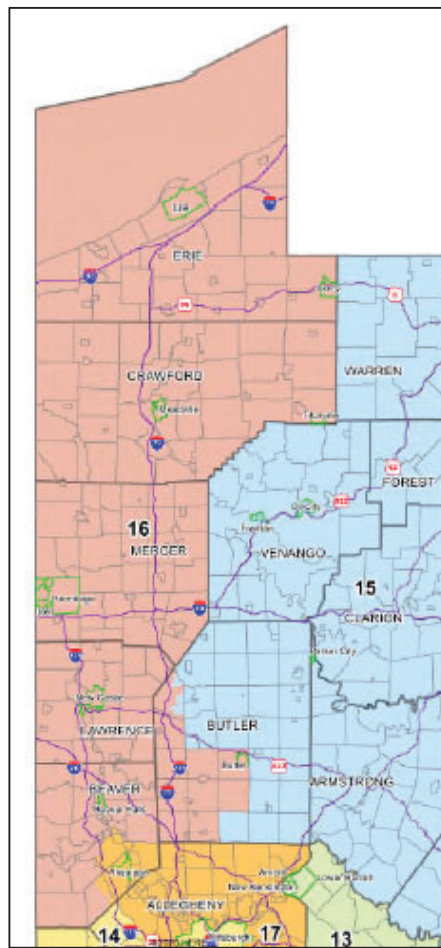
GMS Plan
District 16

**District 16:**   District 16 includes most of Pennsylvania's western border counties and is anchored by Erie County in the northwest, linking it with other industrial and rural counties to its south:  all of Crawford, Mercer, and Lawrence, and most of Beaver and Butler Counties.  The district is connected north to south by I-79.
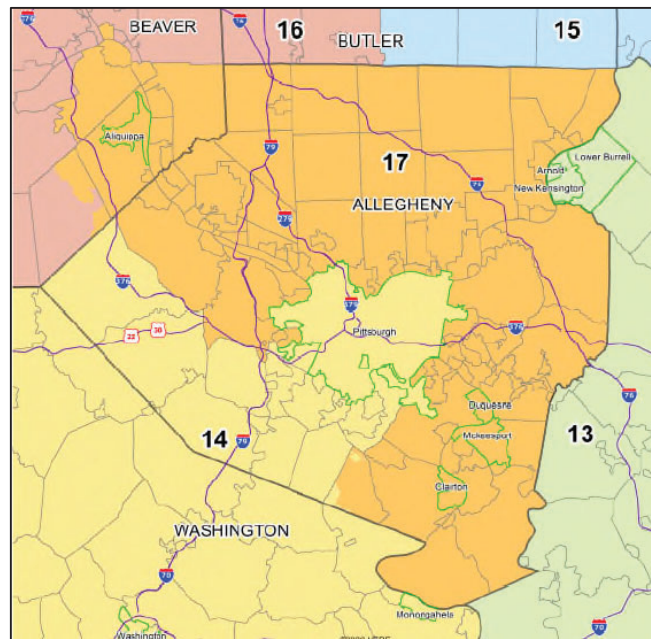
GMS Plan District 17

**District 17:** District 17 connects the bulk of the non-Pittsburgh portions of Allegheny County, including Pittsburgh's northern and eastern suburbs and exurbs, along with neighboring communities in southeastern Beaver County. This keeps the smaller towns and cities that make up Pittsburgh's North and East Hills together, along with similarly sized former industrial towns in Beaver County.

## IV. Considering All the Factors Together, the GMS Plan Is Best.

Taking all the constitutional and subordinate factors together, the GMS Plan is the best choice for the people of the Commonwealth. It optimizes performance on the full set of neutral criteria, while maximizing partisan fairness and equal opportunity for Pennsylvanians of all races and ethnicities. The Court need look no further than the data set forth in Attachments A and B to see this is true. Nevertheless, when evaluating the plans, it may be useful for the Court to consider

them in various categories.  The chart below illustrates some categories that may aid the Court in evaluating the options:

| Category | Plans |
|---|---|
| Plans that are inferior to the GMS Plan on nearly every redistricting metric | HB2146<br>House Democrats<br>Senate Democrats 1 |
| Plans with extreme Republican partisan bias | HB2146<br>Reschenthaler 1<br>Reschenthaler 2<br>Voters of PA |
| Plans with significant Republican partisan bias | Draw the Lines<br>Ali<br>Citizen-Voters<br>Senate Democrats 1 |
| Plans with more than 1-person population deviation | Ali<br>Carter<br>House Democrats |
| Plans nearly as fair to both major political parties as the GMS Plan, but inferior on other metrics | Carter<br>Governor<br>Senate Democrats 2 |

As noted, with respect to partisan fairness, the plans generally fall neatly into three categories:  those that are fair, those exhibiting significant partisan bias, and those exhibiting extreme partisan bias.  The below table groups the plans based on their performance on fairness metrics as measured by Dr. DeFord and the independent PlanScore.org website (*see also* Attachments A & B):

58

| Partisan Fairness Metric (closer to zero is better) | Most Fair | Significant Partisan Bias | Extreme Partisan Bias |
|---|---|---|---|
| **Dr. DeFord's Average Mean-Median** (using all 18 elections from 2012 to 2020) | Sen. Dems 2 (-0.3%) GMS (-0.8%) House Dems (-0.9%) Governor (-1.0%) Draw the Lines (-1.2%) | Carter (-1.6%) Ali (-1.8%) Sen. Dems 1 (-1.9%) Citizen-Voters (-2.0%) | Reschenthaler 2 (-2.6%) Reschenthaler 1 (-2.7%) Voters of PA (-2.7%) HB2146 (-2.9%) |
| **Dr. DeFord's Average Efficiency Gap** (using the same 18 elections) | Carter (-0.4%) Governor (0.6%) GMS (0.8%) Sen. Dems 2 (1.0%) | Draw the Lines (-1.6%) Sen. Dems 1 (-2.5%) Citizen-Voters (-2.6%) Ali (-2.7%) House Dems (3.3%) | Voters of PA (-4.8%) HB2146 (-6.3%) Reschenthaler 1 (-7.8%) Reschenthaler 2 (-7.8%) |
| **PlanScore Efficiency Gap** | House Dems (1.2% D) GMS (1.4% R) Carter (1.8% R) Governor (1.9% R) | Ali (2.4% R) Sen. Dems 2 (2.4% R) Sen. Dems 1 (2.5% R) Draw the Lines (3.5% R) Citizen-Voters (4.6% R) | Reschenthaler 2 (6.3% R) Reschenthaler 1 (6.4% R) HB2146 (6.6% R) Voters of PA (6.8% R) |
| **PlanScore Declination** | GMS (0.03 R) House Dems (0.04 D) Carter (0.05 R) Governor (0.05 R) | Ali (0.07 R) Sen. Dems 1 (0.07 R) Sen. Dems 2 (0.07 R) Draw the Lines (0.10 R) Citizen-Voters (0.13 R) | Reschenthaler 2 (0.18 R) HB2146 (0.19 R) Reschenthaler 1 (0.19 R) Voters of PA (0.20 R) |
| **PlanScore Partisan Bias** | GMS (0.9% R) Governor (1.1% R) Carter (1.3% R) Sen. Dems 2 (1.5% R) | Sen. Dems 1 (1.8% R) Ali (1.9% R) House Dems (1.9% D) Draw the Lines (2.9% R) | Citizen-Voters (4.3% R) Reschenthaler 2 (5.9% R) Reschenthaler 1 (6.2% R) Voters of PA (6.5% R) HB2146 (6.3% R) |
| **PlanScore Mean-Median Difference** | GMS (0.4% R) Carter (0.4% R) Governor (0.4% R) Sen. Dems 2 (0.5% R) | Sen. Dems 1 (0.6% R) House Dems (0.7% D) Ali (0.7% R) Draw the Lines (1.0% R) | Citizen-Voters (1.7% R) Voters of PA (2.2% R) HB2146 (2.3% R) Reschenthaler 1 (2.4% R) Reschenthaler 2 (2.4% R) |

Following this Court's mandate in *LWV I* to equalize Pennsylvanians' votes "to the greatest degree possible," 178 A.3d at 817, only three maps come close to the GMS Plan's consistently superior performance on all partisan-fairness metrics: Carter, the Governor, and Senate Democrats 2. But none of these plans is as strong on other metrics as the GMS Plan:

59

- The Carter Plan is less fair than the GMS Plan on most fairness metrics, albeit less substantially than other maps.  But it also has a population deviation of more than one person; has more total splits and pieces, including two split cities when only one is "absolutely necessary"; is slightly less compact; pairs two incumbents seeking reelection compared to none in the GMS Plan; and has only two majority-minority districts compared to the GMS Plan's three.[104]

- The Governor's Plan has substantially more political-subdivision splits than the GMS Plan—indeed, it has **the most total splits of *all* the parties' maps**, and the third-most total splits of all the maps, including *amici*'s.[105]  Those splits include unnecessarily bisecting Pittsburgh.[106]  The Governor's Plan also pairs four incumbents seeking reelection, moves Representative Cartwright into a substantially more Republican district, and has only two majority-minority districts.[107]

- The Senate Democrats Plan 2 has slightly more splits than the GMS Plan, including the unnecessary splitting of Pittsburgh.[108]  This plan also pairs four incumbents seeking reelection, when the GMS Plan pairs none.[109]  And this

---

[104] DeFord Rebuttal, Tables 1, 3, 6, 7, 8, 14, & 15.

[105] *Id.* at Table 6 and App'x A, Table 6a.

[106] *Id.* at Table 4.

[107] *Id.* at Tables 14 & 15.

[108] *Id.* at Tables & 6.

[109] *Id.* at Table 15.

60

plan has only two majority-minority districts compared to the GMS Plan's

three.[110]

Thus, even the few plans that approach the GMS Plan's level of partisan

fairness are inferior under the neutral criteria and other key measures of equal

electoral opportunity.

## V.   The Court Should Reject the Special Master's Recommendation Because It Rests on Clearly Erroneous Findings and the Misapplication of Redistricting Law.

Despite the GMS Plan's clear superiority, the Special Master counseled this

Court to adopt the vetoed HB2146.  *See* Report 216.  As summarized here and in

the GMS Petitioners' Exceptions, the Special Master's Report is replete with errors

of fact and law that wholly undermine its recommendation.

### A.   The Special Master Improperly Deferred to the General Assembly's Vetoed Plan.

At the outset, while the Special Master claimed she was not providing any

"presumptive deference" to HB2146 and was instead applying "the same rigorous

scrutiny" to that plan and all others, Report 208, only deference could explain

selecting a plan that is so clearly inferior to the GMS Plan on all the neutral criteria

and objective measures of partisan fairness, minority opportunity, and incumbent

non-pairing.  *See supra* page 11.  The Special Master erroneously believed that "the

---

[110] *Id.* at Table 14.

Court **must** find that the decisions and policy choices expressed by the legislative branch are ***presumptively reasonable and legitimate***, absent a showing of an unconstitutional defect or deficiency." Report 208–09 (emphasis added). So, without legal basis, the Special Master **presumed** that HB2146 ought to be adopted and improperly placed a burden on other parties to prove otherwise. *See id.* at 213–15.

The presumption that an unenacted, vetoed bill is entitled to judicial deference is a fatal legal error that infects the entire Report. HB2146 decidedly did not reflect "the will of the people," *id.*, because it did not attract a single Democratic vote in the General Assembly, was vetoed by Governor Wolf, and did not become law. To adopt the Legislature's proposed map on this basis would effect a judicial override of the Governor's veto, in violation of the separation-of-powers doctrine. *Cf. Mental Health Ass'n in Pa. v. Corbett*, 54 A.3d 100, 104 (Commw. Ct. 2012) (citing *Sweeney v. Tucker*, 375 A.2d 698, 705 (Pa. 1977)).

For this reason, other courts addressing redistricting have overwhelmingly declined to defer to maps that made it only partway through the legislative process but failed to become law. *See, e.g., Johnson v. Wis. Elections Comm'n*, 967 N.W.2d 469, 490 n.8 (Wis. 2021); *Hippert v. Ritchie*, 813 N.W.2d 379, 380 n.6 (Minn. 2012); *Hartung v. Bradbury*, 33 P.3d 972, 979 (Or. 2001); *O'Sullivan v. Brier*, 540 F. Supp.

62

1200, 1202 (D. Kan. 1982) (three-judge court); *Carstens v. Lamm*, 543 F. Supp. 68, 79 (D. Colo. 1982) (three-judge court).

Ignoring this precedent, the Special Master instead relied on *Upham v. Seamon*, 456 U.S. 37, 41–42 (1982) (*per curiam*), *cited in* Report 208–09. But *Upham* concerned a plan that Texas actually **did enact**. *See id.* at 37–38. Although the plan had not yet received preclearance under then-applicable provisions of the Voting Rights Act, there was no dispute that the legislature passed it and the governor signed it into law. *Id.* So the Special Master disregarded the precedent affording no deference to vetoed plans and instead relied on a case in which the plan had been enacted. This Court should eschew that approach and evaluate all plans equally.

**B.  The Special Master Incorrectly Evaluated Political-Subdivision Splits.**

The Special Master adopted a fundamentally flawed approach to evaluating political-subdivision splits. The Special Master claimed that she "accept[ed] the figures offered by each Party's expert with respect to that Party's plan" and, when no figure was provided, used the figures in Dr. Duchin's and Dr. Barber's reports because their numbers were "highly consistent" with one another. Report 142–43. But the Special Master acknowledged that the experts' figures—including those from Dr. Duchin and Dr. Barber—were **not** fully consistent. *See id.* at 142 (noting that the numbers "do not always agree"). And what she termed "a few small

63

differences" (*id.*) were actually material inconsistencies in what each party deemed a "split." As a result, the Special Master made apples-to-oranges comparisons that led her to incorrectly assess the number of political subdivisions each plan divides.

Dr. DeFord offered comprehensive data on the number of splits in all 13 plans from the parties and *amici* for all six political-subdivision types, all calculated the same way. His calculations show that the Special Master made the following errors:

- Some plans (but not the GMS Plan) split off into a separate district the discontiguous portion of Chester County. The Special Master counted this as a county split for the Governor's Plan, the Senate Democrats Plan 1, the House Democrats Plan, the Ali Plan, and the Citizen-Voters Plan, but *not* the Carter Plan. *See* Report 143–45.

- The Special Master included municipalities split along county lines in reporting the GMS Plan's total municipality splits, but *subtracted* municipalities split along county lines in reporting the total municipality splits for all other plans. *See* Report 143–46. This rendered erroneous all the rest of the Special Master's findings related to municipality splits. *Compare id.*, *with* DeFord Rebuttal, Table 3 & App'x A, Table 3a.

- One of these errors, on which plans split the fewest municipalities, was particularly material: Contrary to what the Special Master erroneously reported, the GMS Plan is tied for splitting the *fewest* municipalities (19)

64

when including splits along county lines and is also ***tied for the fewest*** split municipalities (16) when excluding such splits.  *Compare* Report 146, *with* DeFord Rebuttal, Table 3 & App'x A, Table 3a.

- The Special Master reported the wrong totals for split wards in the Carter Plan, Senate Democrats Plan 1, and the House Democrats Plan.  *Compare* Report 143–44, *with* DeFord Rebuttal, Table 5.

-  The Special Master reported the wrong totals for overall political-subdivision splits for the Senate Democrats Plan 2, HB2146, Citizen-Voters Plan, and Reschenthaler Plans 1 and 2.  Report 147.  This error was, again, material:  While the Special Master erroneously found that the Senate Democrats Plan 2 split the fewest total political subdivisions and that HB2146 and the GMS Plan were tied for second, in reality the GMS Plan splits the ***fewest*** political subdivisions.  *Compare id.*, *with* DeFord Rebuttal, Table 6 & App'x A, Table 6a.

- The Special Master mentioned, but failed to use, Dr. DeFord's pieces metric. Report 67–69.  This metric assesses how political subdivisions are split, revealing whether, for example, a plan minimizes the total number of split subdivisions yet heavily carves up those subdivisions it does split.  On this metric the GMS Plan is tied for the best.[111]

---

[111] DeFord Rebuttal, Table 7 and App'x a, Table 7A.

Individually and collectively, these errors demonstrate that the Court cannot rely on the Special Master's proposed findings. Instead, the Court should evaluate the evidence in the record for itself—evidence that clearly demonstrates the superiority of the GMS Plan.

### C.   The Special Master Incorrectly Analyzed Partisan Fairness.

The Special Master's analysis of partisan fairness similarly contains numerous factual errors,[112] but most fundamentally, it misapplies the holding of *LWV I*: that "the overarching objective" of the Constitution's Free and Equal Elections Clause "is to prevent dilution of an individual's vote by mandating that the power of his or her vote in the selection of representatives be equalized to the greatest degree possible with all other Pennsylvania citizens." 178 A.3d at 817. Rather than comprehensively evaluate each plan in light of this objective, the Special Master instead operated from the erroneous premise that "Pennsylvania's unique 'political geography,'" which she found benefits Republicans, forecloses the possibility of a map that is truly fair and evenhanded to both parties' voters. *See* Report 162–63. Indeed, the Special Master asserted that "[t]o overcome this natural geographic disadvantage, 'Democrats would need a redistricting process that intentionally

---

[112] For example, the Special Master inexplicably faults Dr. DeFord for not including Lieutenant Governor races when he calculated partisan-fairness metrics. Report 167. But in general elections, candidates for Lieutenant Governor run on the same ticket as their party's candidate for Governor, PA. CONST. art. IV, §4, and Dr. DeFord's analysis included the general elections for Governor (and thus Lieutenant Governor) in both 2014 and 2018.

66

carved up large cities like pizza slices or spokes of a wheel, so as to combine some very Democratic urban neighborhoods with some Republican exurbs in an effort to spread Democrats more efficiently across districts.'" *Id.* at 162–63 (quoting Republican Intervenors' Br. at 23 n.20).

The GMS Plan proves that premise is false. The GMS Plan does not "carve up large cities like pizza slices." Indeed, it has a perfect score for city integrity (including keeping Pittsburgh intact) and scores ***better*** on compactness and political-subdivision splits than the Special Master's recommended map, while also outperforming that map on all measures of partisan fairness. *See* Parts I–II, *supra*. Both of those things could not be true in the same map if the Special Master was right about the constraints of Pennsylvania's political geography. And this Court's 2018 Plan further demonstrates that political geography does not dictate maps that favor Republicans to the degree that HB2146 does:

| Metric | HB2146 | 2018 Plan |
|---|---|---|
| DeFord Antimajoritarian Outcomes | 5 (all favoring R) | 1 (favoring R) |
| DeFord Avg. Mean-Median | 2.9% R | 1.9% R |
| DeFord Avg. Efficiency Gap | 6.3% R | 2.6% R |
| PlanScore Mean-Median | 2.3% R | 0.8% R |
| PlanScore Efficiency Gap | 6.6% R | 2.9% R |
| PlanScore Partisan Bias | 6.3% R | 2.1% R |

This same misunderstanding about Pennsylvania's political geography led the Special Master to find, erroneously, that the GMS Plan "provides a partisan

67

A1808

advantage to the Democratic party in contravention to the natural state of political voting behavior and bias towards Republicans in Pennsylvania." Report 205. In fact, each of PlanScore's partisan-fairness metrics shows that the GMS Plan, like the 2018 Plan, has a very slight ***pro-Republican*** tilt.[113]

The Special Master further erred in concluding that differences of "a few percentage points" in partisan-fairness metrics do not matter. *See* Report 172. That conclusion apparently rested on her erroneous assumption that expert evidence in *LWV* established specific ranges of "normal" or "acceptable" mean-median and efficiency-gap scores—0% to 4% for mean-median and plus-or-minus 10% for the efficiency gap. *Id.* at 166, 172. But that mean-median expert evidence was based on simulations conducted to demonstrate that the 2011 congressional map was a partisan gerrymander, and the efficiency-gap evidence was not specific to Pennsylvania. *See LWV I*, 178 A.3d at 774–75, 777–78. This Court did not adopt that evidence as setting a universal standard for mean-median and efficiency-gap scores going forward. *See id.* In any event, there is no basis to select HB2146, which bumps up against even the Special Master's supposed "maximum" acceptable level of partisan bias, when there is an alternative map that ***both*** is demonstrably fairer on all metrics of partisan fairness ***and*** performs best on Pennsylvania's neutral criteria.

---

[113] DeFord Rebuttal, App'x D.

The Special Master also erred in relying on Dr. Barber's testimony on partisan fairness. Despite never having published a single peer-reviewed article about redistricting,[114] Dr. Barber purported to evaluate the fairness of each map by comparing it to the fairness of 50,000 maps generated by a computer-based methodology that he admitted on cross-examination had never been peer-reviewed or adopted by a court.[115] His theory was that Pennsylvania's political geography creates a natural Republican bias that flows from the spatial distribution of Democratic and Republican voters throughout the state.[116] Accordingly, he opined that if a map is drawn with fidelity to the neutral redistricting criteria but nevertheless contains a partisan bias in favor of Republicans, that bias ought to be considered natural (and thus appropriate) rather than intentional (and thus improper).[117]

On cross-examination, however, Dr. Barber admitted that a skewed map harms voters regardless of whether the skew was intentional or unintentional.[118]

---

[114] *See* Tr. 562:4–12; *see also* Chairman Mark Nordenberg, Opening Statement, Pa. Legis. Reapportionment Comm'n 16–18 (Feb. 4, 2022) (concluding that Dr. Barber's testimony to the Commission was entitled to little or no weight).

[115] *See* Barber Rebuttal at 13–14; Tr. 516:4–517:12, 598:21–600:11. In addition, other experts testified that Dr. Barber's methodology was flawed. Tr. 388:23–390:10 (DeFord), 948:17–950:22, 952:16–24 (Caughey). And multiple courts have "concluded or found that [Dr. Barber's] testimony should be given little weight or no credit." Tr. 564:3–565:22 (Barber).

[116] Barber Opening at 10.

[117] Tr. 509:10–512:5.

[118] *Id.* at 581:13–18.

69

Moreover, he acknowledged that courts generally should prefer an "atypical" map with low partisan bias to a "typical" map with more partisan bias—an admission that rendered his entire testimony largely pointless.[119]   Dr. Barber thus effectively conceded that the *LWV I* Court had it right that the "overarching objective" of redistricting in Pennsylvania is to prevent vote dilution.  178 A.3d at 817.

The Special Master erred in selecting a plan that treats voters less equally, when presented with the GMS Plan that treats voters more equally ***and also*** exceeds HB2146's performance on all neutral redistricting criteria.  The Special Master inexplicably asserted that the GMS Plan "was purposefully created using an algorithm that sought to optimize on partisan fairness."  Report 178, 205.  But the "evidence" she cited to support this finding is page 14 of the GMS Petitioners' opening brief, which says no such thing.[120]  More fundamentally, the Special Master did not articulate any reason that a map that optimized partisan fairness would be invalid.  As the U.S. Supreme Court has held, there is nothing wrong with designing a redistricting map to "achieve 'political fairness' between the political parties." *Gaffney v. Cummings*, 412 U.S. 735, 735–36 (1973).

The Special Master's flawed approach to partisan fairness is particularly evident from her selection of the four maps that she asserted best comply with the

---

[119] *Id.* at 582:17–586:3.

[120] *See* GMS Opening Br. at 14; *see also* Tr. 277:11–278:23.

Free and Equal Elections Clause and the Constitution's neutral redistricting criteria.

*See* Report 207. Those four receive the most Republican-favoring scores of ***all plans***

across virtually all metrics of partisan fairness. *See supra* page 59.

### D. The Special Master Incorrectly Analyzed the Communities-of-Interest Factor.

As explained, a congressional plan's districts can be drawn to preserve

communities of interest. *See* Part III, *supra*. But the Pennsylvania Constitution does

not require that a plan preserve communities of interest, beyond those communities

defined by the boundaries of political subdivisions, which should not be split

"[u]nless absolutely necessary." PA. CONST. art. II, §16. As this Court has

explained, preservation of communities of interest is "wholly subordinate" to the

neutral criteria and all other legal requirements. *LWV I*, 178 A.3d at 817.

Ignoring this Court's guidance, the Special Master elevated the preservation

of communities of interest from a permissible, but secondary, redistricting

consideration, to a chief requirement. *See* Report 152 ("A common thread running

through the Supreme Court's opinion in *LWV II* is that, to the greatest degree

practicable, a congressional redistricting plan should avoid dividing a community

with shared interests and concerns.").

The Special Master compounded this error by erroneously concluding that

"the Gressman Petitioners did not adequately establish that they considered

community interests when deciding to erect boundary lines across the

Commonwealth." *Id.* at 155. To the contrary, the GMS Plan appropriately optimizes compliance with the neutral criteria and other legal requirements, while respecting communities of interest throughout the Commonwealth, as described above and conveyed in 15 pages of briefing to the Commonwealth Court.[121]

The Special Master further erred by giving undue weight to Dr. Keith Naughton's testimony on communities of interest. *See* Report 154–55. Cross-examination revealed that Dr. Naughton's opinions were based on *ipse dixit* rather than actual expertise.[122] Dr. Naughton admitted he had no particular experience in redistricting;[123] had never published any peer-reviewed articles on redistricting;[124] had never tried to draw a congressional plan for the Commonwealth;[125] identified no

---

[121] *See* GMS Opening Brief at 48–63. The Special Master credited Dr. Naughton's testimony that Bucks County should not be split into two districts because "no other party put forth any evidence or expert opinion that refuted the veracity of his opinion." Report 157. But in combining parts of Northeast Philadelphia and lower Bucks Counties, the GMS Plan puts together communities with similar interests and, as Dr. DeFord explained, results in a third, and historic, majority-minority district, with Latino adult citizens as the largest minority population. DeFord Opening ¶¶134–140.

[122] As noted, the Special Master frequently credited Dr. Naughton's opinion simply because "no other party put forth any evidence or expert opinion that refuted the veracity of his opinion." *See, e.g.*, Report 154–55, 157. The parties, however, had no opportunity to "put forth any evidence or expert opinion" to refute Dr. Naughton, because his sole expert report was not filed until the final deadline for all expert *rebuttal* reports, less than 16 hours before the evidentiary hearing commenced; the Special Master refused to allow rebuttal witnesses; and the Special Master unilaterally decided the order of witnesses, with Dr. Naughton testifying next-to-last.

[123] Tr. 777:22–778:9.

[124] *Id.* 810:14–18.

[125] *Id.* 778:11–20.

polling on what communities in Pennsylvania want in redistricting;[126] used no

particular methodology to arrive at his opinions on redistricting in Pennsylvania;[127]

and cited no scholarly literature to support his opinions.[128] He admitted that his

opinions were based simply on his experience and that he had spent his entire career

working only for Republicans.[129] The Special Master's overreliance on a single

biased witness's *personal opinions* about a consideration subordinate to the

constitutional requirements for redistricting was one more in a string of factual and

legal errors underpinning her recommendation of the inferior HB2146 Plan.

## CONCLUSION

The Court should adopt the GMS Plan. It fully complies with all state and

federal legal requirements, outperforms the other plans on nearly every metric,

ensures that all voters will have an equal opportunity to translate votes into

representation, expands electoral opportunities for minority voters, preserves

numerous communities of interest, pits no incumbents against each other in the

upcoming elections, and is fundamentally fair to all citizens of the Commonwealth.

Pennsylvania is entitled to not just a "good" map or even a "great" map to

govern its congressional elections for the next decade but, rather, the very best and

---

[126] *Id.* 775:24–776:23.

[127] *Id.* at 779:12–17.

[128] *Id.* at 813:6–13.

[129] *Id.* at 698:12–20.

fairest map.  Because the GMS Plan is that map, the GMS Petitioners respectfully

ask this Court to adopt it for the people of the Commonwealth.

Dated: February 14, 2022                              Respectfully submitted,

                                                     By: /s/ Kim M. Watterson


Sam Hirsch (PHV)                                     Kim M. Watterson (PA 63552)
Jessica Ring Amunson (PHV)                           Devin M. Misour (PA 311892)
Lindsay C. Harrison (PHV)                            REED SMITH LLP
Tassity S. Johnson (PHV)                             225 Fifth Avenue, Ste. 1200
Claire M. Lally (PHV)                                Pittsburgh, PA 15222
JENNER & BLOCK LLP                                   (412) 288–3131
1099 New York Avenue, NW, Ste. 900                   kwatterson@reedsmith.com
Washington, DC 20001                                 dmisour@reedsmith.com
(202) 639–6000
SHirsch@jenner.com                                   Shannon E. McClure (PA 164502)
JAmunson@jenner.com                                  REED SMITH LLP
LHarrison@jenner.com                                 Three Logan Square
TJohnson@jenner.com                                  1717 Arch Street, Ste. 3100
CLally@jenner.com                                    Philadelphia, PA 19103
                                                     (215) 851–8100
                                                     smcclure@reedsmith.com
April A. Otterberg (PHV)
JENNER & BLOCK LLP
353 N. Clark Street                                  *Counsel for Gressman Math/Science*
Chicago, IL 60654                                    *Petitioners*
(312) 222-9350
aotterberg@jenner.com

## CERTIFICATION OF WORD COUNT

Per Pa.R.A.P. 2135(a)(1), I hereby certify that this Brief contains 13,980

words, exclusive of the supplementary matter as defined by Pa.R.A.P. 2135(b).


Dated: February 14, 2022                     /s/ Kim M.  Watterson
                                             Kim M.  Watterson (PA 63552)
                                             REED SMITH LLP
                                             225 Fifth Avenue, Ste.  1200
                                             Pittsburgh, PA 15222
                                             (412) 288–3131
                                             kwatterson@reedsmith.com

**CERTIFICATE OF COMPLIANCE**

I certify that this filing complies with the provisions of the *Case Records Public Access Policy of the Unified Judicial System of Pennsylvania* that require filing confidential information and documents differently than non–confidential information and documents.

Submitted by:    Kim M. Watterson

Signature:    /s/ Kim M. Watterson

Name:    Kim M. Watterson

Attorney No.    PA 63552_____

**PROOF OF SERVICE**

On February 14, 2022, I caused a copy of the foregoing to be served on all

counsel of record via the electronic filing system, PACFile:

/s/ Kim M.  Watterson
Kim M.  Watterson (PA 63552)
REED SMITH LLP
225 Fifth Avenue, Ste.  1200
Pittsburgh, PA 15222
(412) 288–3131
kwatterson@reedsmith.com

A1818